Whose Motives Lead at Work? - The Role of Motives for Leadership Prototypes, Leader-Member Exchange Quality and Work-Related Outcomes

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Summary

The present thesis concentrates on intra-individual motives as antecedents of leadership prototypes as well as inter-individual motive constellations as antecedents of leader-member exchange quality. Previous motive research has demonstrated that motives orient peoples' cognition and behavior in the social environment. Research into social relationships has proved that motives are relevant determinants of interpersonal relationship quality. Thus Part I of the present thesis postulates that motives are related to leadership prototypes. The concept of leadership prototypes is a cognitive concept which contains a set of beliefs about the behaviors and characteristics of outstanding leaders. More specifically, it hypothesizes that achievement, power and affiliation motives are related to leader behavior that is perceived by the follower as being prototypical. Part II considers on the one hand whether motive constellations within a leader-follower dyad have an influence on leader-member exchange (LMX) quality and on the other whether LMX quality mediates motive constellation effects on work-related outcomes. Altogether five studies are reported. One pilot and two cross-sectional studies in Part I demonstrate that achievement, power and affiliation motive themes are anchored in prototypical leader behavior and investigate for the first time individual explicit motive dispositions as being related to the three motive-specific leader prototypes. In Part II two cross-sectional studies, which were carried out on a dyadic level by investigating a leader and one direct subordinate, reveal that leader and follower motives are related to LMX quality and work-related outcomes, more precisely job satisfaction, in-role behavior, organizational citizenship behavior, affective commitment and subjective well-being. Taken together, the results of the five studies have important theoretical implications. They underscore the importance of motivational concepts within leadership phenomena and broaden the horizon of previous leadership research by integrating three different lines of research: motives, social interactions and leadership. Moreover, with additional practical

relevance, they pinpoint the importance of dyadic motive constellations with regard to LMX quality and several work-related outcomes.

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Introduction

The present thesis adopts a motive-theoretical perspective to explain leadership prototypes and leader-member exchange (LMX) quality. From this perspective, leadership phenomena are not explained by situational factors, such as work circumstances (e.g., salary, workplace conditions), but by variables within the person (e.g., personality attributes, motivational variables such as motives). More specifically, the individual motives and the motive constellations of the two partners in a dyadic leader-follower relationship are investigated here with a view to predicting leadership prototypes, LMX quality and work-related outcomes. Our motive theoretical perspective opens a wide avenue for the analysis of motivational, cognitive and behavioral processes in leader-follower relationships.

Motivational psychology defines motives as basic needs (McClelland, 1985). In McClelland's concept of motives there are three motives which are relevant in the context of social motivation: the achievement, power and affiliation motives. Many studies have demonstrated the importance of these three basic motives in the entrepreneurial and leadership context (e.g., Kehr, 2004; McClelland & Boyatzis, 1982; Van Emmerik, Gardner, Wendt, & Fischer, 2010). The present thesis ties up with this research by investigating whether explicit achievement, power and affiliation motives predict leadership prototypes (Part 1). Part II, which is a dyadic approach, examines whether LMX quality and work-related outcomes are predicted by the explicit and implicit (achievement, power and affiliation) motive constellations of leaders and followers.

In the following, we will begin with a brief overview of three related lines of research and the concepts used in them: motive approach, research on social relationships, and leadership research. Before going into more detail about the concepts involved, the first aim is to emphasize the role of motives within social relationships.

Motive Theory

Motive theory was originally based on the clinical and theoretical writings of Henry Murray (Murray, 1938). Since the early 1980s, Atkinson (1982), McClelland (1985) and others have extended Murray's ideas for theoretical and empirical research purposes. Motives have been defined as "individual motivational dispositions that are aimed at the attainment of specific classes of incentives and the avoidance of specific classes of disincentives" (cf. Schultheiss, 2008, p. 603). Past research on motives has concentrated on three basic motives: the achievement, the power and the affiliation motive. We will give a brief overview of the affective and behavioral functions, the development and the role of the three motives for economic phenomena.

"The psychological kernel of the achievement motive is the capacity to derive satisfaction from the autonomous mastery of challenging tasks" (cf. Schultheiss, 2008, p. 603; see also in McClelland, Atkinson, Clark, & Lowell, 1953; Schultheiss & Brunstein, 2005). Individuals with a strong achievement motive are driven by the feeling of success, for example when they do something well or improve on a task (McClelland 1985). In developmental terms, McClelland, Koestner & Weinberger (1989) posit that the achievement motive is typically rooted in parents' setting high standards of performance and valuing achievement-related pursuits for their child (McClelland & Pilon, 1983). In other words, individuals with a strong achievement motive have been trained in childhood to associate the effort they put into tasks and challenges with a positive feeling that occurs after succeeding and surmounting the challenge. Achievement-motivated individuals prefer to be allowed to master challenges on their own terms, but also prefer work settings in which they obtain regular feedback with regard to optimizing their performance (e.g. Brunstein & Schmitt, 2004). High-achievement individuals succeed in business when they have absolute control over their goals, when they can see how well progress towards the goal is going, and when

frequent feedback is available. Unlike these jobs, which focus on what the achievement-motivated person perceives as being the best possible goal and the way to reach it, jobs which require leadership skills (Jacobs & McClelland, 1994; McClelland & Boyatzis, 1982) have no strong appeal for achievement-motivated individuals. By content-coding presidential inauguration speeches, Winter (1991) has shown that achievement-motivated individuals are associated with an active-negative leadership style, and that they get frustrated because they have to – but are unwilling to – compromise, and have no full control over goal setting and goal implementation.

Individuals with a strong power motive "have a capacity to derive pleasure from having physical, mental, or emotional impact on other individuals or groups of individuals and to experience the impact of others on themselves as aversive" (cf. Schultheiss, 2008, p. 606). The power motive is driven by this sense of having an impact on others. In this context, having an impact on others must be distinguished from dominant, coercive or aggressive behavior. For instance, Schultheiss and Brunstein (2002) videotaped participants while they were presenting their opinion on the ethics of doing experiments on animals to another person. People with a high level of power motivation were then rated by judges, who viewed these videotapes. They rated them not as being less friendly, but as being more competent and persuasive. However, Fodor and Smith (1982) have shown that highly power-motivated leaders favor an autocratic style of decision-making which hinders subordinates from participating through input. Another facet of strongly power-motivated individuals is that they are likely to give unsolicited help, advice and support to others (Winter, 1973). In developmental terms, the power motive is also seen to be rooted in the behavior of parents, more specifically in parental permissiveness of sexual or aggressive behavior before the age of five (McClelland & Pilon, 1983).

As with the power motive, the affiliation motive describes a social motive. Affiliation motivation is a concern for establishing, maintaining, and restoring positive relationships with others (Atkinson, Heyne, & Veroff, 1958). A strong affiliation motive is driven by the feeling of interpersonal closeness. High-affiliation individuals interact more with other individuals whom they perceive as being similar to themselves and friendly (e.g., Lansing & Heyns, 1959), and they are more open for taking the needs of others into consideration in their own actions (e.g., Hardy, 1957). Individuals with a high affiliation motive are prone to distancing themselves from others they perceive as rejecting them and from those whose views disagree with their own. For instance, Byrne (1961) showed that individuals with a strong affiliation motive are less willing to work with a partner whose opinions are dissimilar from their own. In achievement contexts, affiliation-motivated individuals perform better at tasks that require cooperation than at those that are competitive (Koestner & McClelland, 1992). Their need for harmonious relationships makes highly affiliation-motivated individuals tend to become managers in companies with a flat rather than with a strongly hierarchical business structure (McClelland, 1985). With regard to the developmental precursors, highly affiliation-motivated individuals have been found to be praised more by their parents in a socializing way, which means that the affiliation motive may be rooted in early attachment styles. To date, however, the link between affiliation motivation and early attachment styles remains largely unexplored.

McClelland and his colleagues (1989) further differentiate between implicit and explicit motives. While implicit motives “are motivational dispositions that operate outside of a person’s conscious awareness” (Schultheiss, 2008), motivational constructs to which people have conscious access are labeled as self-attributed or explicit motives. Explicit motives can therefore be assessed using self-report methods. Motive researcher have consistently found that implicit motive measures, such as the Picture Story Exercise, (PSE; McClelland et al.,

1989), and self-reports in a given motive domain are largely uncorrelated. This means that the motivational needs that individuals ascribe to themselves are not (or not necessarily) valid indicators of their underlying motive dispositions. Perhaps even more importantly, these two separate motive systems respond to different types of stimuli and differ in their behavioral correlates (e.g., Brunstein & Maier, 2005; Schultheiss & Brunstein, 1999).

Motives drive, select and orient people's attention towards behavior (McClelland, 1985). In our work we conceive of behavior within social interactions and leader-follower relationships, respectively, as being goal-directed and therefore motivated behavior. Thus motives are assumed to play an important role within social work relationships. We tie in our theorizing with concepts from and research on interpersonal interactions.

The Role of Motives within Social Relationships

Since the 1950s, a variety of theoretical interpersonal models have emerged (see review by Kiesler, 1996; Horowitz, Wilson, Turan, Zolotsev, Constantino, & Henderson, 2006). Although these models differ in important ways, most of them certainly agree in the view that interpersonal behavior is organized on two basic dimensions: communion and agency. The first dimension of interpersonal behavior is therefore represented on the horizontal x-axis of interpersonal behavior and has also been called connectedness, warmth, affiliation or nurturance. Communion ranges from a negative pole, labeled as disconnected (not hostile as it was in former models; see Horowitz et al., 2006; p. 71), to connected, loving or close. Influence, control or dominance describes the second dimension, the orthogonal y-axis – agency. Hogan and Roberts (2000) mentioned that communion and agency represent "the two principal evolutionary challenges of social adaptation, namely, getting along (communion) and getting ahead (agency)". The two postulated basic dimensions of

interpersonal behavior – communion and agency – map perfectly on affiliation and power motives.

One issue examined in the present investigation concerns motive constellations within the dyadic relationship between leaders and followers. We build upon the concept of *complementarity* (Carson, 1969; Kiesler, 1983; see review by Kiesler, 1996). The concept of complementarity itself defines an interaction as being complementary "when the two individuals within the interaction are similar on the affiliation dimension and are opposite on the control dimension" (Tracey, Ryan, & Jaschik-Herman, 2001, p. 788). Perhaps even more importantly, Tracey and his colleagues (2001) posit that "interactions that are similar on the control dimension and opposite on the affiliation dimension are hypothesized to be very threatening to relationship stability". Up to now, this assumption has mainly been tested with regard to couples and romantic relationships. With regard to interpersonal traits, trait complementarity has been associated with relationship quality (Markey & Markey, 2007) and relationship satisfaction (Dryer & Horowitz, 1997). Moreover, Tracey et al. (2001) have demonstrated that happily married couples show a higher trait complementarity than divorced couples.

With regard to the affiliation dimension, the concept of complementarity of interpersonal personality traits (e.g., Wiggins, 1979) is supported by another important interpersonal concept: the similarity-attraction model (e.g., Byrne, 1971; Griffitt, 1966; Jellison & Zeisset, 1969; Novak & Lerner, 1968). Similarity-attraction theory basically posits that people prefer to interact with others who have similar personal characteristics. Moon (for a review, 1996) defines similarity as shared demographic characteristics, shared physical characteristics or shared attitudes. The similarity hypothesis has been supported by various studies, which showed (see overview in Dryer & Horowitz, 1997), for instance, that college students prefer roommates with similar personality traits (Carli, Ganley, & Pierce-Otay, 1991;

Deutsch, Sullivan, Sage, & Basile, 1991), people like strangers with personality characteristics similar to their own (Byrne & Griffin, 1969; Griffitt, 1966) and people prefer dating partners who share their own personality type (Morell, Twillman, & Sullaway, 1989). We believe liking and preferring another individual to be a significant prerequisite for being open towards interacting with the other person and for establishing a good relationship. Several studies on couple relationships support the view that similarity is important for couples to be satisfied in their relationship (Dymond, 1954; Farber, 1957; Levinger & Breedlove, 1966, cf. Acitelli, Kenny, & Weiner, 2001).

Part II of this thesis focuses on interpersonal phenomena in the dyadic relationship between leaders and followers. We apply the concept of complementarity to motives in leader-follower relationships, because *interpersonal motives* have been proposed "…as important determinants of interpersonal functioning and interpersonal problems" (Horowitz, 2004; Horowitz et al., 2006; see also Elliot, Gable, & Mapes, 2006; Gable, 2006) (p. 1097). More specifically, we investigate the influence of interacting motives within leader-follower-dyads.

Part I of the present thesis centers on *individual motive dispositions* as important factors in the explanation of outstanding leader behavior, named leadership prototypes. Therefore, we begin our theorizing with a brief introduction to the research on the concepts of implicit leadership, including leadership prototypes.

Implicit Leadership Theory

Despite the dyadic nature of leader member exchange relationships, they are mainly observed by considering the perspective of only a single party (Graen & Uhl-Bien, 1995; Schriesheim, Castro, & Cogliser, 1999). When looking at leadership relationships and their determinants, the leadership approach is divided into a leader and a follower perspective

(Shamir, 2007). The leader perspective views the leader as the active and the follower as the passive recipient of leadership, while the follower perspective assumes that the subordinate actively determines the leadership process. Lord and Maher (1991) spearheaded the cognitively oriented leadership theory known as Implicit Leadership Theory (ILT). The importance of ILT is emphasized by the authors as structuring and guiding perception and processing of leader-related information (e.g., Lord & Brown, 2004; Lord & Maher, 1991). ILT represents the follower perspective and suggests that the perception of leaders through the followers' eyes is a central aspect of leadership. Current studies, dealing with leadership categorization, have revealed that subordinates display more positive reactions towards their leaders when – in their own perception – the leaders match their ideal leader prototype (Epitropaki & Martin, 2005; van Quaquebeke, 2008). Researchers on ILT start from the basic assumption that every individual has a subjective perspective about leadership and the leadership process, and furthermore about what being a good leader means to them (Lord & Maher, 1991). The concept of ILT includes the characteristics as well as the abilities which leaders should represent (leadership prototypes). Therefore, ILT manifests a cognitive basis for processing as well as adequately reacting to leader behavior. More specifically, ILT posits individuals to have a knowledge of desirable and undesirable leader attributes, which are used by them to distinguish good leaders from bad leaders (or from non-leaders) (Eden & Leviathan, 1975; Lord & Maher, 1991). If a person is perceived as an outstanding leader in terms of her characteristics and behavior, she falls under the stereotype of an ideal leader, labeled leadership prototype (inclusion-exclusion model; Bless & Schwarz, 1998). To summarize: ideal leader behavior is predicted by the categorization process with regard to leadership prototypes.

Over the past decade, it has become of central importance to ILT researchers to investigate the determinants of leadership prototypes. Culture (see e.g., Brodbeck & Frese, 2007; Chokkar, Brodbeck, & House, 2007) and gender (Paris, Howell, Dorfman, & Hanges,

2009) have been found to determine leadership prototypes. With regard to culture, House (1999) carried out one of the most distinguished research projects, the Global Leadership and Organizational Behavior Effectiveness project (GLOBE; Chokkar, Brodbeck, & House, 2007; House, Hanges, Javidan, Dorfman, & Gupta, 2004), which includes a network of about 180 scientists. The GLOBE questionnaire was used to analyze more than 900 organizations in more than 60 countries with respect to four different levels: individual, organization, industry and country. The questionnaire contained: firstly, questions regarding the organization and culture and, secondly, questions with regard to leadership attributes. Two dimensions – cultural and leader dimensions – have been assessed in the GLOBE project. Our work focuses on leader dimensions. As a result, a total of six leader dimensions were defined with regard to the leadership dimension: *Charismatic/Value-Based, Team-Oriented, Participative, Human Orientation, Autonomous* and *Self-Protective*. Plenty of studies have been able to show that cultures differ in their leadership prototypes on these six dimensions. For instance, leadership aspects of the dimensions *Charismatic/ Value-Based* and *Team-Oriented* have been found to describe central, socially shared characteristics of leadership prototypes in Germany, while *Participative* does not (van Quaquebeke & Brodbeck, 2008).

Another determinant, besides culture, that affects different leadership prototypes is gender. Paris and her colleagues (2009) have linked GLOBE leader dimensions to the aspect of gender and suggest that social experiences may cause men and women to adopt different prototypes of leaders (Ayman, 1993; Schein, 2007). Their study found that, compared with male managers, female managers prefer participative, team-oriented and charismatic leadership prototype dimensions. Humane-oriented leadership was rated equally by men and women.

Part I of the present thesis focuses on how individual motive dispositions (achievement, power and affiliation) are linked to leadership prototypes, based on the GLOBE

leader dimensions. Up to now, there are no studies that link these two concepts to each other. It has only been demonstrated that McClelland's motives (1985) are related to the cultural dimensions investigated in the GLOBE (the achievement motive to Performance Orientation, the affiliation motive to Humane Orientation and the power motive to Power Distance) (van Emmerik et al., 2010).

Part I of the present work is concerned with two issues: firstly, showing that prototypical leader behavior can be categorized in terms of motives into achievement, power and affiliation types. Secondly, Part I of this thesis investigates whether individual motive dispositions predict three motive-specific leadership prototypes.

Part I: Achievement, Power and Affiliation Leadership Prototypes: A New Perspective of Motivational Psychology on Implicit Leadership Theories

A lot of studies dealing with McClelland's motives have been conducted within managerial and entrepreneurial contexts (e.g., Langan-Fox, 1995; McClelland & Boyatzis, 1982; Pillai, Williams, Lowe, & Jung, 2003; Rauch & Frese, 2007; Shantz & Latham, 2009; cf. van Emmerik et al., 2010), and several have focused especially on how motives are linked to leadership and work-related outcome variables (e.g., Jacobs & McClelland, 1994; Kehr, 2004; McClelland & Boyatzis, 1982). Although existing studies emphasize the role of individual motive dispositions with regard to different leadership issues, there has been no research on how motives are related to ILT and leadership prototypes.

According to McClelland's theory, motives are learned and they vary in their strength between individuals. Motives have an important function – they motivate individuals to goal-directed behavior. This means that motive dispositions have an influence on which behavior is displayed by leaders and followers within their LMX. Thus, they shape leader member exchange in an important way. Schultheiss and his colleagues have found that motives orient

people's attention to motive-congruent stimuli (Schultheiss, Liening, & Schad, 2008; Schultheiss & Hale, 2007). For instance, Schultheiss and Hale (2007) used a dot-probe task to assess the effect of motives on attentional orientation towards facial expressions. In two studies they predicted the power motive to influence attentional orientation towards faces that signal low or high dominance, and the affiliation motive to influence attentional orientation towards faces signaling rejection or affiliation. In support of these hypotheses, they found that, compared with individuals scoring low in power motivation, high-power individuals orient their attention towards surprised faces, indicating low dominance, and away from angry or happy faces (high dominance). Compared with individuals low in affiliation, high-affiliation individuals oriented their attention towards happy faces (high affiliation), but also towards hostile/angry faces (rejection). Other research on motives was able to show that they predict the liking of others (Pang, Villacorta, Chin, & Morrison, 2009). As a consequence, motives should determine how we perceive the world, for instance, how we perceive the behavior of other individuals we are related to. At this point, the line of the leadership prototype approach ties in when we conceive of motives as influencing the follower's view of what constitutes appropriate or outstanding leader behavior.

In Part I of the present research, the leader dimensions of the GLOBE were theoretically and empirically analyzed with respect to motives and the anchoring of achievement, power and affiliation themes. This ties in with the leadership research by van Emmerik and her colleagues (2010), who related McClelland's "Big Three" to three GLOBE cultural dimensions. Their research was aimed at the societal embeddedness of motives. Building upon these concepts, we firstly focus on the embeddedness of the motive themes, achievement, power and affiliation, in the GLOBE leader dimensions and, secondly, go further by emphasizing the predictive influence of motives on leadership prototypes. The second assumption of the first part of the present thesis builds on the idea that individual motive dispositions (of followers) predict leadership prototypes. For instance, compared with

individuals scoring low on achievement, high-achievement individuals are assumed to be more likely to focus on achievement attributes and behavior with regard to their leadership prototype (and similarly for the affiliation motive - affiliation leader prototype, and the power motive - power leader prototype).

How is Part I of the present thesis, which deals with leader prototypes, related to Part II, which is about leader member exchange quality? Van Gils, van Quaquebeke and van Knippenberg (2010) argue that the ideal-categorizing of leaders makes an important contribution to the formation of the leader-follower relationship, the leader member exchange (LMX; Graen & Uhl-Bien, 1995). They understand ILTs to "shape expectations of the relationship partner and thereby influence relationship quality expectations" (Day & Schyns, 2010; p. 256). An ideal-categorization was found to be positively connected with positive work-related outcomes of followers, such as commitment (Steyrer, Schiffinger, & Lang, 2007), job satisfaction and well-being (Epitropaki & Martin, 2005; Hansbrough, 2005). If a subordinate categorizes his or her superior as being ideal, he will be more open to the influence of the leader and can identify better with him (Eckloff & van Quaquebeke, 2008).

Whereas the first part of this thesis dealt with the influence of individual motives, the second part focuses on motive constellations within a leader-follower relationship and its relation to LMX quality and work-related outcomes. It will be shown that LMX quality and several work-related outcomes can differ for leaders and followers, depending on the motive constellation of the leader and the subordinate.

Part II: The Role of Dyadic Motive Constellations on Leader-Member Exchange Quality and Work-Related Outcome Variables

The basic unit of analysis in LMX research is the quality of the exchange relationship between a leader and a particular member - a dyad (van Breukelen, Schyns, & LeBlanc,

2006). Previous research on LMX and the quality of leader-follower relationships has mainly investigated the effects of high-quality LMX (e.g., Gerstner & Day; 1997; Graen, Novak, & Sommerkamp, 1982; van Breukelen et al., 2006; Vecchio & Norris, 1996). A high-quality LMX was found to be directly associated with several work-related outcomes in followers, such as job satisfaction, commitment, performance and motivation to stay in the company. The main theories which underlie a dyadic leader-follower relationship are role theory (Kahn, Wolfe, Quinn, Snoek, & Rosentahl, 1964), social exchange theory (Blau, 1964; Cropanzano & Mitchell, 2005) and similarity-attraction theory (Byrne, 1971) (cf. Kacmar, Harris, Carlson, & Zivnuska, 2009, p. 316). All these concepts theoretically consider LMX dyadically. However, only 10 % of the studies on LMX employ dyadic analyses; thus there is a need to investigate a dyadic phenomenon dyadically (van Breukelen et al., 2006). With an increasing theoretical and empirical interest, current LMX research focuses on the question which preliminary indicators within leaders and followers lead to a high-quality LMX.

In the present research, we investigate explicit and implicit achievement, power and affiliation motives in leaders and followers. The assumptions regarding the second part of this thesis are based, on the one hand, on existing leadership research. On the other hand, we transfer the idea of traits in couples (concepts of complementarity/similarity) to interacting motives in LMX relationships. Besides studying the effects of (dis)similarity between leaders and followers in demographic characteristics (surface-level (dis)similarities) like age, gender and so on, it is posited that effects of a deeper-level (dis)similarity, as it is the case of values, attitudes and personalities, will play a more important role in the consideration of work outcomes (Huang & Iun, 2006).

Recapitulating, the second part of the present thesis emphasizes motives as a further deep-level dyadic aspect which is related to high-quality leader-member exchange relationships. The key message connected with this work is the following: Motivational

processes between leaders and followers play an important role within LMX, that is to say, dyadic motive constellations influence LMX quality. In the long term, a motivational fit between leaders and followers is assumed to contribute to the health and well-being of both work partners.

Part I

Achievement, Power and Affiliation Leadership Prototypes:

A New Perspective of Motivational Psychology on Implicit Leadership Theories

Abstract

Studies show that culture and gender are important predictors of leadership prototypes (House, Hanges, Javidan, Dorfman, & Gupta, 2004; Paris, Howell, Dorfman, & Hanges, 2009). However, little is known about the motives that influence the perception of prototypical leader behavior. Relying on McClelland's (1985) concept of motives, which postulates three motives as being relevant within social motivation, we postulate that leadership behavior is characterized by power, achievement and affiliation motivation. Using a sample of 58 experts in motivational approach, our pilot study asked whether motive themes are anchored in prototypical leader behavior. Study 1 and 2 provide evidence of a three-factor loading of the prototypical leader attributes. Furthermore, Study 2 uses individual explicit motives as individual motive dispositions in order to predict achievement, affiliation and power leader prototypes. Finally, the results demonstrate that three motive-specific dimensions of leader prototypical behavior can be distinguished.

Introduction

In the recent past, the fields of work and organizational psychology have become increasingly interested in detecting how followers perceive their leader through their own eyes (e.g. van Quaquebeke, Eckloff, Zenker, & Giessner, 2009). Why does one follower evaluate the behavior of a leader as being good, whereas another evaluates the same behavior as inappropriate? This question is in fact difficult to answer, because a lot of situational and personal factors are involved in social interaction processes of this kind. Social perception based on categorization processes seems to play a key role. A core concept in this respect has been posited by implicit leadership theorists: the concept of leadership prototypes. Leadership prototypes contain specific configurations which characterize the most common features of certain types of leaders (e.g., business or sports) (Phillips & Lord, 1986; cf. Paris, Howell, Dorfman, & Hanges, 2009). Leaders versus non-leaders, effective leaders versus ineffective leaders are distinguished by people by developing sets of beliefs about their behaviors and characteristics. Recent studies into the issue of leadership categorization have shown that the perception and evaluation of leader-related information is all the more positive the closer the perceived leader matches the idealized leader prototypes of the followers (Epitropaki & Martin, 2005; van Quaquebeke, 2008).

Regarding leadership prototypes, leadership research has so far mainly reported the influence of culture (see e.g., Brodbeck & Frese, 2007; Chokkar, Brodbeck, & House, 2007), and more recently of gender (Paris et al., 2009) on leadership prototypes. From a motivational psychological point of view, we assume that an individual's motive is an important individual determinant which colors and influences that individual's perception of behavior. We therefore focus on individual motives and their role for leadership behavior and leadership prototypes, respectively. More specifically, corresponding to recent motivational research, we focus on the link between motives and cognitive processes, and are concerned with the

influence of motives on the individual's rating of leadership prototypes. We propose that individuals differ in their leadership prototype depending on their power, achievement and affiliation motivation. In the following, we will briefly summarize the theoretical line of argument concerning *implicit leadership theories and the concept of leadership prototypes* as well as *the influence of culture and gender on leadership prototypes*. Thereafter, we will elaborate on our research contribution, *individual motives and* their relation to the *perception of leader prototypes*.

Implicit Leadership Theories and the Concept of Leadership Prototypes

In the past decade, researchers as well as practitioners have increasingly been interested in learning more about conditions under which subordinates identify with the characteristics and behavior of their leaders in the sense that they are voluntarily open to their influence and, moreover, actually follow their leadership. Early leadership research, focusing on leaders' traits, leader style or specific behaviors (Hosking, Dachler, & Gergen, 1995; Russell, 2003), has been criticized a lot over the past decade. The main allegation was that the followers' perspective of the leadership, especially social cognitive processes, was being neglected. Consequently, a 'cognitive revolution in leadership research' (Lord & Emrich, 2001, p. 551) started, with leadership researchers increasingly emphasizing the view of leadership as being a phenomenon of leader-member exchange with a specific emphasis on the followers' perception of leaders (Ayman, 1993; Felfe & Schyns, 2006; Graen & Scandura, 1987, Hollander & Offermann, 1990; Schyns & Felfe, 2006; Schyns, Kroon, & Moors, 2008). A central theory which is concerned with cognitive issues in leadership is the implicit leadership categorization theory (*ILT*; Lord & Maher, 1991). Lord and Maher postulate that leadership perceptions are based on categorization processes. According to their theory, one important condition for individuals to follow their leader is that the follower's leadership

prototype is activated and that there is a match with the actual leader. The leader categorization approach posits that humans, as information processors, use implicit theories about leader prototypes to derive predictions about behavioral traits of real or potential leaders (Kenney, Schwartz-Kenney, & Blascovich, 1996; Lord & Maher, 1991; Nye, 2005; Nye & Forsynth, 1991). In the next few paragraphs we will briefly summarize the theory about how human beings categorize their social environment, and the phenomenon of prototypes in general, in order to understand the specific phenomenon of leadership prototypes.

While cognitive researchers basically agree about how to define prototypes, they disagree on the issue of their origins. Rosch (1973a, 1973b) spearheaded social psychological research on prototypes. She pictorially explained the phenomenon of prototypes as follows: “Creatures with feathers are more likely to have wings than creatures with fur” (1978, p. 28). In her theory, she suggests that there is a general knowledge about prototypes. Prototypes are broadly defined as instances and various conceptions of exemplars, in that all their known attributes are filled in, even if the attributes are not all directly related to category membership (Anderson, 1980, 1990). Prototypes answer the “What is it?” question and help us to capture the content and structure of a particular concept (Stroessner & Scholer, 2008). Past research on prototypes asked, among other things, for an answer to the question whether prototypes result either from a general, culturally shared body of relational knowledge (Baldwin, 2005) or from knowledge that is more heavily based on an individual’s own personal experiences. Fehr and Broughton (2001), for instance, demonstrated reliable individual differences in developing prototypes (of love).

The questions which arise in the leadership context containing the origin of prototypes are: What is the source of different leadership prototypes? What role does our personality play in this context? Do specific leadership prototypes exist which are based on individual differences? In line with the concept of a prototype in general, leadership prototypes in

particular include sets of beliefs about the characteristics and behaviors of leaders versus non-leaders. Previous ILT research has mainly been interested in answering two questions: firstly, how leadership prototypes arise; and secondly, how a match or mismatch between the actual leader and the leadership prototype influences the interaction between the leader and the follower. ILT researchers postulate that the degree to which subordinates are open to their leader's influence depends on how closely the leader's behavior matches the subordinate's cognitive image of an ideal leader (Eckloff, & van Quaquebeke, 2008; Van Quaquebeke, Eckloff, Zenker, & Giessner, 2009). This means that *ILT* theory (Lord & Maher, 1991) understands leadership not as being directly related to the actual result of a leader's trait or behavior, but rather to the social reality constructed by the perceiver. More precisely, followers have a mental representation of leadership which is informed as much by "objective" input from the environment, e.g., leader behavior and characteristics, as by the individual's subjective cognitive frame of reference (as a function of different individual factors, e.g. individual differences, experiences, … etc.) through which leadership is understood (i.e., ILTs; cf. Gioia, Thomas, Clark, & Chittipeddi, 1994; van Gils, van Quaquebeke, & van Knippenberg, 2010). Following research on ILT and social cognition, which postulates that every person perceives the social world differently (see Higgins & Bargh, 1987), we assume that followers have an individual idea of and preference for behavioral patterns that constitute a leadership prototype. In order to investigate the question whether leadership prototypes are based on individual differences and to develop a broad understanding of the origin of different leadership prototypes, we elaborate on past research into determinants linked to leader prototypes.

Influences of Culture and Gender on Leadership Prototypes

Leadership researchers mention that prototypes "are developed and refined over time as a result of actual experiences with leaders, exposure to literature about effective leaders,

and other social-cultural influences" (Yukl, 2010, p. 135). The effects of socio-cultural influences on leadership and prototypes have been examined in numerous studies (e. g., Brodbeck, Frese, Ackerblom, Audia, Bakacsi, Bendova, et al., 2000; Gerstner & Day, 1994, 1997; Holmberg & Åkerblom, 2006; Omeltchenka & Armitage, 2006). One of the most distinguished research projects, the Global Leadership and Organizational Behavior Effectiveness project (GLOBE; Chokkar, Brodbeck, & House, 2007; House, Hanges, Javidan, Dorfman, & Gupta, 2004) was carried out by House (1999). The GLOBE questionnaire study investigated, firstly, cultural dimensions and, secondly, leader dimensions in organizations. GLOBE's questions about cultural dimensions asked about shared values, motives and norms, convictions and systems of meanings, which are the result of a common experience of the members of a collective (e.g. an organization). GLOBE is divided into nine cultural dimensions, such as *Performance Orientation*, which is defined as the degree to which organization members are encouraged to perform. Our work focuses on leader dimensions. With regard to leader dimensions, the GLOBE questionnaire asked about culturally specific leader ideals, which are determined by leader attributes that are associated with outstanding (prototypical) leaders within a society. The GLOBE project assessed managers in 62 countries and distinguished between six out of 21 Culturally Endorsed Leadership Theory Dimensions (*CLT dimension*: Charismatic/Value-Based, Team-Oriented, Self-Protective, Participative, Humane and Autonomous). This project and numerous other studies enabled researchers to identify and describe differences in leadership prototypes across members of cultural groups with different values, beliefs, assumptions, and meanings (Brodbeck et al., 2000; House et al., 2004; House, Wright, & Aditya, 1997; Shaw, 1990). We assessed a sample from German-speaking regions and therefore used the D-ILT, a scale developed by van Quaquebeke and Brodbeck (2008), who reduced the 112 items of the comprehensive GLOBE instrument (CLT) to a 31-item scale on central aspects of leadership prototypes specifically for Germany.

Two of the six GLOBE leader dimensions, *Charismatic/Value-Based*[1]and *Team-Oriented*[2], reflect central, socially shared prototypical leader characteristics. Three dimensions were found to contain anti-prototypical attributes in German-speaking cultures (e.g., *Participative* with the subscales *Autocratic* and *Non-Participative*) (van Quaquebeke & Brodbeck, 2008). Anti-prototypical leader attributes are defined as leader behavior that is perceived to prevent a leader from being viewed by followers as outstanding. In summary, several studies so far have conceptualized and proved leadership to be a cultural phenomenon.

Current leadership research suggests that, in addition to socialization experiences and culture, women and men differ in their prototypes of effective leaders (Ayman, 1993; Schein, 2007; Paris et al., 2009). Paris and her colleagues (2009) proved that a leader's gender is an important factor affecting prototypes of outstanding leadership. In a cross-cultural study, female leaders generally preferred participative, team-oriented, and charismatic leadership dimensions compared with male leaders. Contrary to previous assumptions, both males and females valued humane-oriented leadership equally. Moreover, Paris and her colleagues found gender egalitarianism[3] and industry type to moderate the relationship between gender and leadership prototype. Their study showed that contextual factors, such as the type of industry, were more important than the societal culture affecting leadership prototype differences. This result leads us to our investigation of other potential factors – not contextual ones, but factors within the individual. To the best of our knowledge, the question whether differences in leadership prototypes can be explained by individual differences has not yet been investigated. Our research contribution is to reflect on individual motives as an important individual difference explaining the choice of different leadership prototypes.

[1] GLOBE subscales: Charismatic I: Visionary, Charismatic II: Inspirational, Integrity, Decisive, Performance Orientation
[2] GLOBE subscales: Team Integrator, Malevolent, Diplomatic
[3] '… reflects societies' beliefs about whether members' biological sex should determine the roles that they play in their homes, business organizations, and communities" (House et al., 2004; p. 347)

Individual Motives and the Perception of Leader Prototypes

In fact, the consideration of individuals' motives with regard to social perception and particularly interpersonal behavior was largely neglected until the mid-1990s. Current interpersonal theory and research views motives as important determinants of interpersonal functioning (e.g., Horowitz, Wilson, Turan, Zolotsev, Constantino, & Henderson, 2006; Grosse Holtforth, Pincus, Grawe, & Mauler, 2007). We therefore suggest that individual motives are likely to play an important role in the context of leadership, because the phenomenon of leadership automatically embeds social interaction processes. In short, motives are defined as enduring preferences for specific classes of incentives (McClelland, 1985; Schultheiss, 2008). Motive approach conceptualizes motives as personality traits that vary between individuals (personality approach; McClelland 1985; Murray 1938). Three motives are relevant in the domain of work and social motivation: the achievement, affiliation, and power motives (McClelland, 1985). Research on human motivation was spearheaded by McClelland (1985) and his colleagues (McClelland, Koestner & Weinberger, 1989). McClelland's theory postulates that human motivation can ultimately be explained by a limited number of the three basic motives mentioned above. Firstly, the achievement motive represents the need to accomplish something difficult and to attain a high standard. Secondly, people with a pronounced affiliation motive strive to establish and maintain positive relationships, and thirdly, the power motive is the need to feel a sense of potency by influencing and directing the behavior of others, and thus to have an impact on others. Furthermore, McClelland defines motives as relatively enduring preferences for a broadly defined class of incentives that orient, select and energize behavior.

Regarding motives and social categorization processes, there is evidence that individual motives function as a basis for effecting the interpretation of a partner's behavior within a social interaction. One reason for this is that motives are found to have an influence

on the perception and evaluation of social stimuli. Schultheiss and his colleagues, for example, have suggested that motives orient people's attention towards motivationally congruent information in the social environment (e.g., Schultheiss, Liening, & Schad, 2008; Schultheiss & Hale, 2007). They found that power-motivated individuals direct their attention towards faces signaling (low) dominance, whereas affiliation-motivated individuals show vigilance for faces signaling (low) affiliation (rejection). This effect is explained by the researchers in that people see a rewarding character of motivationally congruent stimuli. It might be argued that directing people's attention towards a social stimulus, for instance a behavioral characteristic of an interaction partner that is motive-congruent, does not mean preferring this stimulus or liking it more than a non-congruent characteristic. However, with respect to this objection, Pang and her colleagues (Pang, Villacorta, Chin, & Morrison, 2009) have been able to show that motives predict the liking of others, with whom individuals have social interactions. In their study, the achievement motivation score of the participants predicted their preference for achievement-related information about the (successful) peer. To summarize, previous work on motives shows that individual motives determine whether and how people perceive social stimuli, and how they evaluate them. Our hypothesis is based firstly on this line of research and secondly on the motivational model of interpersonal interaction (Horowitz, 2004; Horowitz et al., 2006), which postulates that interpersonal behavior is motivated: "People behave in ways that invite a class of desired reactions from other people. These behaviors are part of a dynamic system in which motives may be satisfied or frustrated, depending on the partner's reaction" (Shechtman, & Horowitz, 2006, p. 1126). In the present case of our study this would mean that followers evaluate and interpret the partner's (leader's) behavior in terms of themselves, and want their own motives to be satisfied by the behavior of the partner. Within this evaluation process, some leader behavior characteristics seem to be more appropriate to them than others with regard to satisfying their needs. To us this means that a person who strives to achieve an excellent standard in his or her

work will have a different idea of a leadership prototype than a person whose main goal is to establish and maintain friendly relationships in a working team.

Several studies within the leadership and entrepreneurial context have used McClelland's theory and looked at the importance of motives (cf., Rauch, & Frese, 2007; Spangler, & House, 1991). His work has also been used in various studies investigating the relevance of all three basic motives in the context of leadership (e.g., Jacobs & McClelland, 1994; Kehr, 2004; McClelland & Boyatzis, 1982; McClelland & Franz, 1992; van Emmerik, Gardner, Wendt, & Fischer, 2010). For instance, researchers have proved empirically that individuals with a strong power motive and a high score in activity-inhibition are socially successful: they excel as leaders in work accomplishments (McClelland & Franz, 1992) and they hold significantly more offices in voluntary organizations (McClelland & Pilon, 1983; Winter, McClelland, & Stewart, 1982). In another study, McClelland and his colleagues (McClelland, 1985; McClelland & Boyatzis, 1982) have shown that there is a motive pattern which predicts managerial success, called the Leadership Motive Pattern (LMP). McClelland and Boyatzis (1982) used one of the few longitudinal data sets in this area, for non-technical managers (managers in functions such as marketing, personnel and administration). Motives were assessed using the Thematic Apperception Test (TAT). To provide a longitudinal analysis of the association of motives with managerial success, TAT protocols for 237 managers were retrieved when the managers entrained into the company, scored for the personality variables in question, and correlated with the levels of promotion attained after 8 and 16 years. As the main result of the study, McClelland and Boyatzis defined the LMP personality construct as being determined by high Power motivation (nPower), low Affiliation motivation (nAffiliation) and high Activity Inhibition (A.I.). Briefly defined, Activity Inhibition is an indirect measure of self-control or socialization.

Recently, some researchers have explored interrelationships between McClelland's motives and three cultural GLOBE dimensions (*Performance Orientation, Human Orientation and Power Distance*) (van Emmerik et al., 2010). In their work, van Emmerik and her colleagues assume power motivation to predict the degree to which the members of an organization accept an unequal distribution of power, influence and perquisites (*Power Distance*); the affiliation motive to predict *Human Orientation*, which is the degree to which the organization encourages members to be nurturing and sensitive; and the achievement motive is hypothesized to be positively linked to the cultural dimension of *Performance Orientation* (cf. Emmerik et al., 2010). The results of van Emmerik and her colleagues support their hypothesis with regard to achievement motivation being linked to *Performance Orientation* and affiliation motivation being linked to *Human Orientation*. However, for the power motive and *Power Distance* they found, contrary to their hypothesis, a significant negative relationship. Moreover, they demonstrated that the relationships between McClelland's motives and managers' personality factors are moderated by cultural dimensions.

Following the work of van Emmerik and her colleagues (2010), which yields evidence for the suggested influence of motives in the context of GLOBE culture dimensions, we focus on the link between motives and GLOBE leader dimensions. Whereas the cultural dimensions of the GLOBE reflect the shared values and motives within an organization, we address leader dimensions which reflect culture-specific leader ideals (prototypes). Up to now, no research has been carried out investigating whether the phenomenon of leadership prototypes is linked to individual motive dispositions, which our research examines.

The Present Research

To summarize, past leadership research has mainly dealt with investigating the behavior of leaders and its direct effects, such as followers' performance. Recent leadership

approaches have increasingly focused on the role of followers' cognition. Consequently, constructs which refer to the follower and clarify why and how leaders achieve certain effects have become more and more relevant (Lord, & Brown, 2004; Shamir, Pillai, Bligh, & Uhl-Bien, 2006).

In our present research we focus on the phenomenon of leadership prototypes in the eyes of the individual, and we investigate how the phenomenon of leadership prototypes is linked to individual motive dispositions. In their recent work, van Emmerik and her colleagues (2010) have shown conceptual and empirical links between the cultural dimensions of the GLOBE study (House et al., 2004) and the achievement, affiliation, and power motives. Managers in their study who placed a strong emphasis on performance, i.e. scored high on the cultural dimension of *Performance Orientation*, had high achievement motives and managers with a high level of *Human Orientation* had high affiliation motives. Contrary to their hypothesis, their results revealed a significant negative relationship between *Power Distance* and power motives. To summarize, this study provides support for the relevance of motives in the context of cultural dimensions of leadership. We build on this work and focus on motives in the context of leadership dimensions and leadership prototypes.

Our first aim is to show that prototypical leader behavior can be categorized into achievement, affiliation or power dimensions. Therefore, our pilot study investigates the motive-specific anchoring of the 112 prototypical attributes of the six *CLT dimensions* of the GLOBE project (Chokkar et al., 2007; House et al., 2004). Secondly we want to show that motives have a predictive influence on leadership prototypes. Overall, this extends the theoretical analysis of motives and leadership prototypes in an important way, because motives have thus far not been considered to be relevant antecedents of leadership prototypes (aside from culture and gender as determinants).

Thus we conducted three questionnaire studies. On the one hand we investigated the embedding of motive themes in leader behavior, i.e. prototypical leader behavior characteristics are assumed to reflect achievement, affiliation and power themes to a greater or lesser extent. On the other hand the relationship between individual motive dispositions in connection with the perception of prototypical leader behavior was demonstrated. Firstly, in the pilot study GLOBE's Culturally Endorsed Leadership Theory Dimensions (*CLT dimensions*) were analyzed in the light of motive theory and pre-determined by us to reflect more of an affiliation motive category (e.g., *Collectivistic*, *Face-Saving*, *Narcissistic* (r)), more of an achievement motive (*Charisma: Formerly/Visionary*, *Conflict-Oriented*, *Performance Goals*) or more of a power motive category (e.g., *Autocratic*, *Charismatic III/ Self-sacrificial*, *Charismatic/Inspirational*). More specifically, we hypothesized that every leader behavior characteristic will reflect achievement or affiliation or power motives to a greater or lesser extent. Experts in the field of motivational psychology were then asked to rate GLOBE's leader behavior pattern in regard to the three basic motives. As a precondition, we investigated whether leader behavior reflects motive themes (achievement, affiliation and power) at all. As explained above, we further predicted that, besides the empirical support of cultural GLOBE dimensions being related to motives (van Emmerik et al., 2010), the behavior attributes of leader GLOBE dimensions would reflect a motive-thematic anchoring of McClelland's "big three" (1985). For instance: *"Tends to be a good friend of subordinates."* (affiliation), *"Inclined to dominate others."* (power), *"Strives towards excellent efforts by oneself and others."* (achievement).

Secondly, in order to investigate our assumption that three motives reflect three different behavioral pattern or leadership prototypes, respectively, we conducted factor analyses in Study 1 and 2 to provide evidence of a three-factor loading of the prototypical leader attributes. The aim of this methodological approach was to replicate the results of our

pilot study, and therefore to support the three-motive thematic anchoring of GLOBE attributes. The two different samples of Study 1 and Study 2 were recruited in German-speaking regions, and as a result participants rated the German scale of the ILT questionnaire (D-ILT; van Quaquebeke & Brodbeck, 2008), a reduced and more economical version of the *CLT* that contains 31 central, socially shared aspects of implicit leader attributes in Germany.

To sum up, if these assumptions hold, we would have a clear indication of an interrelationship between motives and the perception of leader behavior, and particularly of prototypical leadership. Our explorative research on motives and leadership prototypes opens a wide avenue to further ILT research. One important contribution of our investigation is to learn more about how and why leader behavior influences the perception and evaluation process of subordinates. Hence, if different subordinates with different motive dispositions evaluate the same leader, it is likely that the results of their evaluation will differ individually.

Pilot Study: Three Categories of Leader Prototypical Behavior: Achievement, Affiliation and Power

Our pilot study tested the fundamental assumption that prototypical leader behavior is anchored in motives. The aim of our pilot study was to confirm our assumption of three motive-specific dimensions of leadership prototypical behavior (using the *CLT* dimensions). As a crucial precondition for further empirical analyses we initially defined the possibility of pre-categorizing GLOBE's leader attributes into one of the three motive categories, based on motivational psychological theory: affiliation, achievement and power. Therefore, first of all, we set out to determine all those leader behavior characteristics which most clearly reflect power, achievement and affiliation, in order to confirm them in subsequent studies.

Method

Participants and Procedure

A total of 59 experts on the motivational psychological approach participated in the study. The sample was composed of researchers who are scientists or students specialized in motivational psychology. They were either invited to take part in a web-based study[4] or in a paper-and-pencil questionnaire.

Measures

The GLOBE questionnaire (**G**lobal **L**eadership and **O**rganizational **B**ehavior **E**ffectiveness Research Program) contains behavior items measuring leadership prototypes. The construct definitions and leadership dimensions for this project correspond to those in the GLOBE project (Dorfman, Hanges, & Brodbeck, 2004). Firstly, we pre-classified the German form of the GLOBE so as to minimize the initial 112 items (21 factor-analytically formed

[4] We used the freeware limesurvey (http://psychmserver.uzh.ch/limesurvey/admin, Retrieved 2009).

leadership scales including six second-order factors, the *CLT dimensions*) and produce a more economical instrument, and secondly to prove motive specificity. This pre-classification was based on theoretical and conceptual assumptions of motive psychology, using McClelland's (1985) division and definition of three basic motives as well as Winters' manual (1994) of affiliation, achievement and power motive scoring. Participants assessed (motive-specific) grouped attributes rather than individual ones, as in the GLOBE questionnaire. We therefore used the GLOBE scales to group the attributes as our first step. In the second step we checked whether each of the 21 GLOBE scales reflects behavioral characteristics which would characterize a leader with a high achievement, affiliation or power motive, or whether no motive-specific behavior is described (control items as mentioned below). This means that we used motive-theoretical considerations to decide which attributes reflect one of the three motive-specific behavior attributes. Furthermore we pre-defined those behavioral attributes which – again based on theoretical considerations – should not be rated high in coherence, with the three motives as control items. Finally, a total of 25 groups of attributes reflecting at least one of the three motives – power, achievement or affiliation – or no motive (control items) were included in our instrument. Participants of the pilot study rated these behavior groups on a scale from 0 (*low*) to 4 (*high*), saying whether each corresponded to the behavior pattern of a person who is motivated by power, achievement and affiliation. Moreover, study participants were able to select *rating not applicable* if they could detect no motive specificity in the corresponding item.

Results

Analysis Strategy

A total of 25 repeated measure analyses of variance (ANOVAs) were conducted to test the assumption that our pre-grouped leader characteristics reflect either one of the three categories – affiliation, achievement or power – or none of them. We subsequently conducted

T-tests for paired samples, comparing the means of the power, achievement and affiliation ratings. Table 1 summarizes the mean scores of our three motive categories, showing that the ANOVAs and T-tests were significant for most of the 25 behavior attribute groups (except the items in the *Neutral* category). Please note that mean scores that are presented in bold type in Table 1 reflect the motive category we postulated in advance. In item groups with no mean score in bold type, the control category was postulated. In defining the criterion as the mean of the pre-classified item group differing significantly from the means of the two other motive-specific groups, the expert ratings of 17 out of 25 behavior item groups support our pre-classification (for the following groups: 1, 4, 6, 7, 8, 9, 10 (control), 15, 16, 17, 19, 20, 21, 22, 23, 24, 25; see Table 1). Evidently, the results revealed that most behavior patterns that describe an outstanding leader can be categorized by means of power-, achievement- and affiliation-specific characteristics.

Table 1 Descriptive statistics and motive categorization of all sets of attributes in the pilot study

Item Set	Dimension: Example of behavioral attribute	*M* (SD) Affiliation (Aff)	Achievement (Ach)	Power (Pow)
1	**Autocratic**: *Bossy* Tells subordinates what to do in a commanding way. Makes decisions in dictatorial way.	0.32 (.64) $_{a}$	0.96 (.93) $_{b}$	**3.95** (.29) $_{c}$
2	**Calm**: *Modest* Does not boast, presents self in a humble manner.*	1.84 (1.21) $_{a}$	1.34 (1.26) $_{a\,b}$	**0.65** (.88) $_{b}$
3	**Charismatic III; Self-sacrificial**: *Convincing* Usually able to persuade others of his/her viewpoint.	1.82 (1.24) $_{a}$	2.65 (1.17) $_{b\,c}$	**2.98** (1.05) $_{c}$
4	**Collectivistic**: *Fraternal* Tends to be a good friend of subordinates.	**3.72** (.70) $_{a}$	1.22 (1.04) $_{b}$	1.52 (1.29) $_{b}$
5	**Decisiveness**: *Willful* Strong-willed, determined, resolute, persistent.	1.03 (.91) $_{a}$	2.88 (1.14) $_{b}$	2.24 (1.04) $_{c}$
6	**Diplomatic**: *Win/win problem solver* Able to identify solutions which satisfy individuals with diverse and conflicting interests.	**3.30** (.95) $_{a}$	1.49 (1.08) $_{b}$	1.83 (1.07) $_{b}$
7	**Face-saving**: *Evasive* Refrains from making negative comments to maintain good relationships and save face.	**3.14** (.98) $_{a}$	0.91 (1.12) $_{b}$	0.78 (1.06) $_{c}$
8	**Charisma; Formerly/Visionary**: *Intellectually stimulating* Encourages others to think and use their minds;	0.93 (1.00) $_{a}$	**2.70** (1.01) $_{b}$	2.35 (1.04) $_{c}$

	challenges beliefs, stereotypes and attitudes of others.			
9	**Humane**: *Generous* Willing to give time, money, resources and help to others.	**3.27** (.97) $_{a}$	0.79 (.98) $_{b}$	1.91 (1.32) $_{b}$
10	**Integrity:** *Just* Acts according to what is right or fair.	2.26 (1.24) $_{a}$	1.25 (1.29) $_{b}$	1.50 (1.32) $_{a\,b}$
11	**Bureaucratic**: *Formal* Acts in accordance with rules, convention and ceremonies.	1.25 (1.12) $_{a}$	**1.25** (1.14) $_{a\,b}$	1.03 (1.22) $_{a\,c}$
12	**Administratively Effective**: *Administratively skilled* Able to plan, organize, coordinate and control work of large numbers (over 75) of individuals.	0.80 (.76) $_{a}$	**2.29** (1.15) $_{b}$	2.98 (.94) $_{c}$
13	**Narcissistic**: *Loner* Works and acts separately from others.*	**0.20** (.72) $_{a}$	2.49 (1.10) $_{b}$	0.52 (.86) $_{a}$
14	**Individualistic:** *Independent* Does not rely on others; self-governing.*	**0.45** (.72) $_{a}$	1.10 (1.18) $_{a}$	1.78 (1.31) $_{b}$
15	**Status-conscious**: *Class-conscious* Is conscious of class and status boundaries and acts accordingly.	0.91 (1.04) $_{a}$	0.68 (1.04) $_{b1,\,a}$	**2.90** (1.13) $_{b}$
16	**Charismatic II; Inspirational**: *Motive arouser* Mobilizes and activates followers.	2.46 (1.38) $_{a}$	2.48 (1.31) $_{a}$	**3.35** (.97) $_{b}$
17	**Evil**: *Egotistical* Conceited, convinced of own abilities.*	0.40 (.96) $_{a}$	0.93 (1.15) $_{a}$	**3.08** (1.15) $_{b}$
18	**Team I; Collaborative Team Orientation**: *Informed* Knowledgeable, aware of information.	1.30 (1.06) $_{a}$	2.28 (1.02) $_{b}$	1.04 (.94) $_{a}$
19	**Team II; Team Integrator**: *Communicative* Communicates with others frequently.	**3.28** (.88) $_{a}$	1.28 (1.06) $_{b}$	2.14 (1.14) $_{c}$
20	**Team III**: *Coordinator* Integrates and manages work of subordinates.	2.26 (1.29) $_{a}$	1.97 (1.13) $_{a}$	**2.80** (1.02) $_{b}$
21	**Conflict-oriented**: *Intra-group competitor* Tries to exceed the performance of others in his or her group.	1.58 (1.28) $_{a}$	**3.30** (1.02) $_{b}$	1.79 (1.38) $_{a}$
22	**Non-participative**: *Non-egalitarian* Believes that all individuals are not equal and only some should have equal rights and privileges.	0.38 (.67) $_{a}$	1.97 (1.37) $_{b}$	**3.65** (.73) $_{c}$
23	**Performance Goals**: *Performance-oriented* Sets high standards of performance.	0.44 (.75) $_{a}$	**3.98** (.14) $_{b}$	1.30 (1.24) $_{c}$
24	**Self-centered**: *Self-centered* Pursues own standards the strongest. *	**0.25** (.79) $_{a}$	2.00 (1.44) $_{b}$	1.29 (1.38) $_{b}$
25	**One's Own Needs**: *One's own needs*: Concerned with and places high value on preserving individual rather than group needs.*	**0.16** (.62) $_{a}$	1.97 (1.22) $_{b}$	1.62 (1.33) $_{b}$

Note: Means carrying different subscripts differ at $p < .05$. Means in bold reflects our pre-categorizing. Item groups without any mean in bold are control items, no motive category pre-classified. * These items are reversed-scored with regard to motive-specific grouping.

Brief Discussion

Based on our pre-categorization of behavior patterns, experts participating in the pilot study allocated the given attribute sets concerning their motive specificity. This result provides some initial support for assuming a motive-specific anchoring of prototypical leader behavior. The fact that behavior can be classified according to exactly one motive – either the power, achievement, or affiliation motive – supports this assumption.

Study 1

The pilot study addressed the question whether we are generally able to categorize leader behavior characteristics by motive-thematic behavior. In the end we specified, through expert ratings, groups of leader behavior which either reflect power, achievement or affiliation behavior (or none of these; control items).

The primary aim of Study 1 was to identify the important dimensions along which people differ with regard to leader prototypical behavior. In the next step we wanted to demonstrate whether these motive-specific behavior groups represent separate, distinguishable dimensions, whereby our a priori model hypothesized that achievement, affiliation and power behavior groups would represent one dimension. We therefore assumed three different kinds of motive-thematic prototypes, for example an achievement behavior pattern reflecting a typical *achievement leader prototype*. Study 1 tested this three-dimensional structure using the validated German scale of leadership prototypes (D-ILT; van Quaquebeke & Brodbeck, 2008). We assessed participants in terms of their individual leadership prototype. In a confirmatory factor analysis we tested whether measures of the D-ILT are consistent with our understanding of the nature of leadership prototypes. If our assumption of three (motive-thematic) leadership prototypes holds true, this would provide a

basis for proving the influence of different individual motives, in order to develop different leadership prototypes in a next step.

Method

Participants and Procedure

120 participants (60 female, 60 male) took part, whereby 80 percent of them were students, and 15 percent were full-time or part-time employees (5 percent unemployed). The data reported here were collected as part of a larger project looking at the motivation of couples. Participants filled in the measure for leadership prototypes during a laboratory session. 60 couples completed the questionnaire (60 women and 60 men, average age 23.8 years, SD = 5.23).

Measures

Leadership Prototype Assessment. To assess participants' leadership prototypes we administered the D-ILT (van Quaquebeke & Brodbeck, 2008). The D-ILT is a reduced version of the 112 items contained in the GLOBE instrument for Culturally Endorsed Implicit Leadership (CLT) and was developed to assess the dimensions of a leader's fit with a socially shared leader prototype in German-speaking countries. The dimensions *Value-Based/Charismatic* (e.g., "Motive arouser: Mobilizes and activates followers.") and *Team-Oriented* (e.g., "Coordinator: Integrates and manages work of subordinates.") are central, socially shared, prototypical aspects of outstanding leadership in German-speaking subjects (van Quaquebeke & Brodbeck, 2008). Besides prototypical dimensions and attributes, the D-ILT – like the CLT dimensions of the GLOBE – contains anti-prototypical attributes, which are central for German leaders (e.g., "Dictatorial: Forces his/her values and opinions on others"). In contrast to prototypical attributes, the behavior characteristics of anti-prototypical leader dimensions are rejected with regard to prototypical leadership. The D-ILT provided a

basis for testing our motive theme assumption. In accordance with the standard instructions used in the German dataset of the GLOBE project (Brodbeck & Frese, 2007), participants rated 31 items. Because one of the three motives – the affiliation motive – was markedly underrepresented in the D-ILT scale, we supplemented the instrument with five attributes from the GLOBE questionnaire based on our pilot study (e.g., *Fraternal: Tends to be a good friend of subordinates*). Respondents used a seven-point Likert-type scale, ranging from 1 "greatly inhibits" to 7 "greatly contributes" to a person being an outstanding leader (House et al., 2004, p. 22).

Results

Preliminary Analyses and Descriptive Statistics

First of all we proved and made sure that there were no interdependence effects in the data, more specifically between the ratings of partners in our sample of couples. There were no significant correlations among our relevant variables. Secondly, to explore our data, we conducted a principal component analysis (PCA) with orthogonal rotation (Varimax) on the 36 items, in order to empirically prove our theoretically assumed three motive-thematic prototypes (see Table 2). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .82 ('great' according to Field, 2009), and all KMO values for individual items were > .63, which is well above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity, χ^2 (630) = 2179.36, $p < .001$, indicated that correlations between items were sufficiently large for a PCA. Three factors (with the motive-specific attributes proposed by our experts in the pilot study) with quite high eigenvalues were taken into account as latent variables for further analyses.

Strategy for Analysis and the Measurement Model

The primary focus of our study was to investigate our a priori model with three latent variables: the achievement, affiliation and power leader prototypes. Structural Equation Modeling (SEM), specifically Confirmatory Factor Analysis **(**CFA), allows the researcher to test the hypothesis that a relationship exists between the observed variables and their underlying latent construct(s). This structural equation model was evaluated using AMOS 17.0 (Arbuckle, 2009).

Results of the SEM

We assessed the goodness of fit of the model by using the chi-square test, the root-mean-square-error of approximation (RMSEA), and the comparative fit index (CFI). A non-significant chi-square test, a RMSEA value of less than .06 and a CFI greater than .95 are indicative of a satisfactory fit (Hu & Bentler, 1999). Figure 1 presents our model, which fits the data well (χ^2 = 215.13; *df* = 193; *p* = .13; CFI = .98; RMSEA = .03).

Prototype Indexes

In the next step, we computed prototype indexes for achievement (*Ach-Prototype*), power (*Pow-Prototype*), and affiliation (*Aff-Prototype*) based on a CFA. As illustrated in Table 2, the Achievement Prototype was positively related to the Affiliation Prototype (r = .44; p < 001).

Table 2 Descriptive statistics and associations (Pearson correlation) between variables in Study 1 (N = 120)

		1	2	3	*M*	*SD*	*Min*	*Max*
1	*Ach-Prototype*	1	.13	.44**	6.13	0.65	3.67	7.00
2	*Pow-Prototype*		1	.06	6.45	0.62	2.50	7.00
3	*Aff-Prototype*			1	5.87	0.71	3.67	7.00

** p < .001.

Brief Discussion

The confirmatory factor analysis conducted revealed that the shared motive themes of three dimensions can be meaningfully identified and labeled as affiliation, achievement and power. Based on our pilot study, Study 1 identified the important dimensions along which people differ with regard to leader prototypical behavior. These results of Study 1 confirm the assumption of three-motive specificity in the context of leadership and leader behavior. Measuring the motives of another sample, in which the leadership context is given, and investigating their relationship with our three prototypes would provide even stronger confirmation. Therefore, the aim of Study 2 was to test our assumption that motives predict the ratings of outstanding leader attributes in a sample of management trainees.

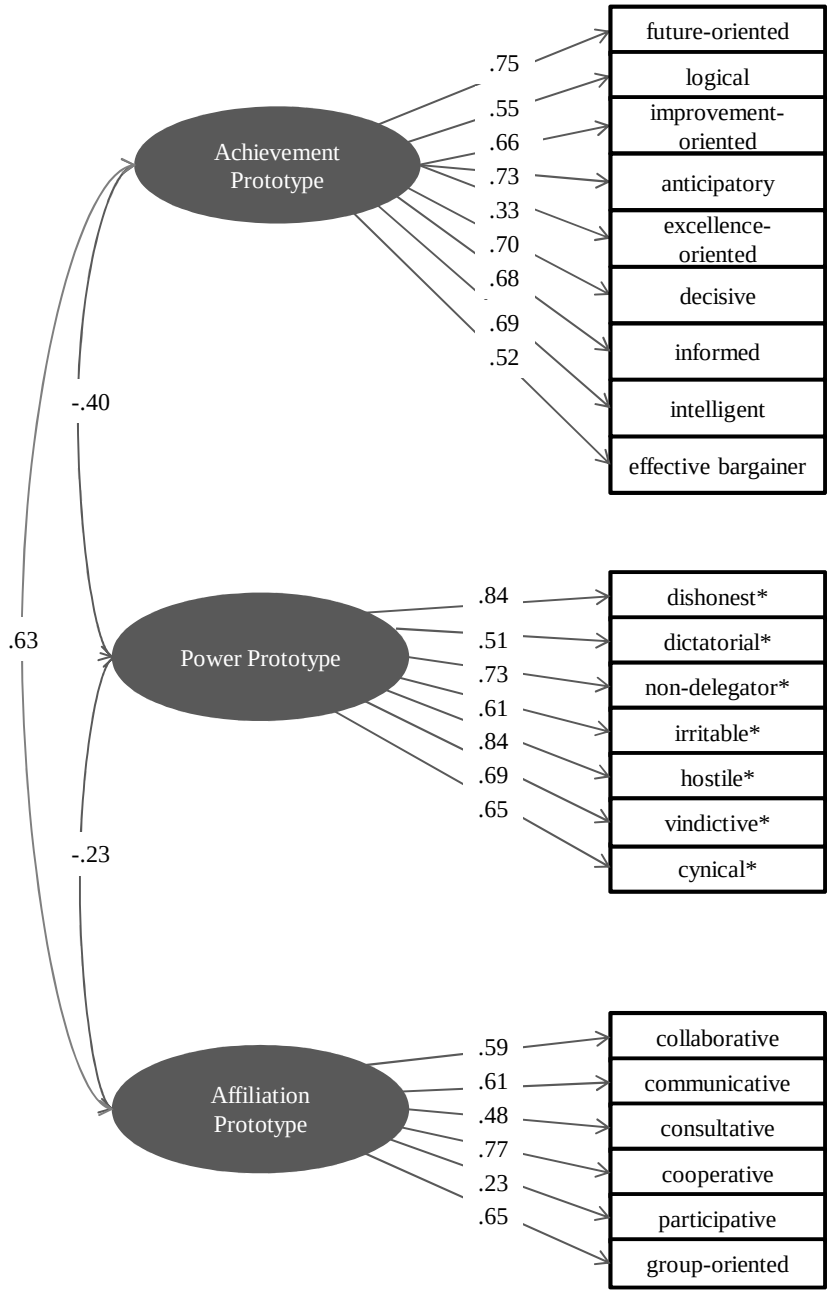

Figure 1 Confirmatory factor analysis for the achievement, power and affiliation prototypes (Study 1)
NOTE: * anti-prototypical attributes from the GLOBE.

Table 3 Summary of exploratory factor analysis results for the adapted D-ILT scales from Study 1 (N = 120)

	Rotated Factor Loadings		
Leader Attribute	Ach	Pow	Aff
improvement-oriented	**.74**	-.11	.15
excellence-oriented	**.64**	.19	-.02
logical	**.64**	-.02	.12
intelligent	**.61**	.-.09	.27
motivational	**.61**	.-.03	-.01
decisive	**.60**	-.03	-.02
encouraging	**.59**	-.26	.36
effective bargainer	**.56**	-.04	.21
motive-arouser	**.55**	-.33	.27
anticipatory	**.55**	-.20	.34
morale-booster	**.53**	-.26	.02
dependable	**.51**	-.32	.37
positive	**.51**	-.23	.23
future-oriented	**.49**	-.23	**.46**
informed	**.47**	-.03	**.47**
trustworthy	**.45**	-.34	.38
integrator	**.45**	-.23	.31
confidence builder	.38	-.38	.28
hostile	-.09	**.83**	-.02
dishonest	-.04	**.81**	-.13
non-delegator	-.13	**.75**	-.08
cynical	-.02	**.75**	-.06
dictatorial	.08	**.67**	-.15
irritable	-.26	**.66**	.06
vindictive	-.14	**.65**	-.01
inspirational	**.44**	**-.45**	.26
cooperative[1]	.23	-.06	**.69**
collaborative	.09	-.05	**.69**
group-oriented	.15	-.08	**.67**
consultative	.05	.02	**.59**
team-builder	.20	-.17	**.58**
participative[1]	-.17	.01	**.47**
communicative	.41	-.08	**.45**
competent	.36	.00	**.44**
dynamic	.23	-.12	.39
fraternal	.34	-.08	.35
Eigenvalues	6.51	4.92	4.51
% of variance	18.08	13.67	12.53
α	.90	.86	.74

Note: Factor loadings over .40 appear in bold type.

[1] Item adapted from GLOBE (reverse scored).

Study 2

In Study 2 we sought to explore the relationship between motives and the perception of leadership prototypical behavior. Our participants were students in advanced semesters at the university, majoring in economics and politics, who may become the next generation of management executives. Previous research has shown that achievement motives predict attitudinal outcomes such as peer ratings (Pang et al., 2009; see also in DeCharms et al., 1955). In an American and a Singapore sample, Pang and her colleagues evinced that Hope of Success predicts liking for successful peers, whereas Fear of Failure predicts liking for unsuccessful peers. In asking for a preferred leader prototype we are interested in the influence of motives on a social evaluation process. Chokkar et al. (2007) note that the GLOBAL dimensions are based on questionnaire responses and therefore reflect self-reported motives when measured on an individual level. Furthermore they mention, with regard to the societal dimensions, that "the aggregated scores reflect norms of society, which serve to motivate, direct, and constrain behavior" (p. 5). We are interested in investigating individual differences and norms. Accordingly, participants provided data on their motives and rated leader behavior attributes. We expected a relationship between motives and the preferred leadership prototype. For instance, imagine a follower who is highly motivated by challenging tasks and who likes to tackle tricky problems (i.e., high achievement motive). When asked what kind of leader he or she would like to be subordinated to, the preferred leader would perhaps be described as a person who motivates him or her to high performance or to work in an efficient way. This kind of leader may theoretically have a conducive influence on the follower's job satisfaction. Another example would be a subordinate who is highly power-motivated. When asked about preferred leader attributes, he would perhaps mention leader attributes which are of a more substantive nature of power, such as *non-delegative* (a person is unable to relinquish control of projects) or *hostile* (actively unfriendly, acting negatively toward others), and perhaps estimate these to be a hindrance to outstanding leadership (*non-*

delegative and *hostile* are recoded anti-prototypical attributes of D-ILT). Consequently, we hypothesized that achievement motive will predict the *Ach-Prototype* (and similarly the affiliation and power motive will predict the *Aff*- and *Pow-Prototype*).

Method

Participants and Procedure

The participants were 121 (83 female, 38 male) students enrolled at the University of Zurich or the Swiss Federal Institute of Technology in Zurich. Their mean age was 23.8 years (*SD* = 4.74). They filled in an online questionnaire, including the measures for explicit motives, a leadership-prototype questionnaire, and written instructions.

Measures

Explicit Motive Assessment. Explicit motives are verbally represented ideas that people have about their outlasting affective preferences and, being consciously represented, they can be assessed by self-report (McClelland et al., 1989). Thus, students completed the shortened German form (Stumpf, Angleitner, Wieck, Jackson, & Beloch-Till, 1985) of Jackson's (1974) Personality Research Form (PRF). The scale consists of three subscales with a total of 18 statements, which can either be accepted or rejected: affiliation (PRF-AF) (e.g., "I try to be in the company of friends as much as possible."), dominance (PRF-DO) (e.g., "I feel confident when directing the activities of others.") and achievement (PRF-AC) (e.g., "In my work I seldom do more than is necessary."(r)). The item choice of our shortened PRF-scale was based on an exploratory factor analysis from another study, implemented at the University of Zurich with a sample of 225 students. In this sample, the short scales correlated well with the complete PRF scale in this sample (for affiliation (San Aff) r = .83, for dominance (San Pow) r = .87 and for achievement (San Ach) r = .69).

After recoding the revised items, we computed an explicit motive index for all three motives by summing the items of the subscales that participants agreed with. The internal consistency of our achievement scale was 0.66 (M = 4.83, SD = 1.44), that of the power scale 0.75 (M = 3.19, SD = 1.98) and that of the affiliation scale was 0.73 (M = 3.67, SD = 1.86). The scores were converted to z-scores for further analysis.

Leadership Prototype Assessment. As in Study 1, the D-ILT scales (van Quaquebeke & Brodbeck, 2008) were administered to measure the participant's leadership prototype, again rated using a seven-point Likert-type scale ranging from 1 "greatly inhibits" to 7 "greatly contributes". Participants estimated attributes of two prototypical leader dimensions, *Value-Based/Charismatic* (e.g., "Motive arouser: Mobilizes and activates followers.") and *Team-Oriented* (e.g., "Coordinator: Integrates and manages work of subordinates.") (van Quaquebeke & Brodbeck, 2008), as well as anti-prototypical items (e.g., "Non-delegator: Unwilling or unable to relinquish control of projects or tasks."). We computed mean scores for prototypical and anti-prototypical D-ILT leader scales. Cronbach's alpha for the prototypical scales *Charismatic/Value-Based* (subscales *Charismatic I: Visionary, Charismatic II: Inspirational, Integrity, Decisive, Performance Orientation*; α = .89) and *Team-Oriented* (subscales *Team II: Team-Integrator, Malevolent, Diplomatic*; α = .84) was sufficiently high. We also demonstrated reliabilities for anti-prototypical scales of .81 for *Team-Oriented* (subscales *Malevolent*) and .62 for *Participative* (subscales *Autocratic/Non Participative*).

Results

Prototype Indexes

Based on our theoretical and empirical assumptions from Study 1, we conducted a CFA. Although the model did not fit the data as well as the data of Study 1, (χ^2 = 236.36; *df* =

184; p = .01; CFI = .96; RMSEA = .05), regression weights indicate that the same attributes are aligned with the same motive-thematic prototypes as in Study 1 (see Table 4). In the next step, like in Study 1, we computed prototype indexes for achievement (*Ach-Prototype*), power (*Pow-Prototype*), and affiliation (*Aff-Prototype*). The indexes provide a basis for our further analyses regarding the prediction of motive-specific leader prototypes from motives.

Table 4 Standardized regression weights from Study 2 (N = 121)

Prototype	Item	Standardized Regression Weights
Ach-Prototype	future-oriented	.65
	logical	.69
	improvement-oriented	.73
	anticipatory	.64
	excellence-oriented	.50
	decisive	.77
	informed	.76
	intelligent	.82
	effective bargainer	.59
Pow-Prototype	cynical	.54
	dishonest	.81
	dictatorial	.58
	non-delegator	.46
	irritable	.62
	hostile	.80
	vindictive	.64
Aff-Prototype	collaborative	.71
	communicative	.49
	consultative	.59
	cooperative	.75
	participative	.62
	group-oriented	.68

Preliminary Analyses and Correlations

Women and men differed in the means of one major study variable: *Pow-Prototype* (r = -.39, p < .001). Men rated the *Pow-Prototype* significantly lower (*sex* was coded as 1 for female and 2 for male). All D-ILT scales were significantly correlated only with the achievement motive: *Charismatic/Value-Based* (*r* = .27; p < .05), *Team-Oriented* (prototypical; *r* = .31; p < .001), *Participative* (anti-prototypical; *r* = -.33; p < .001) *Team-Oriented*, (anti-prototypical; *r* = -.28; p < .05) and *Self-Protective* (anti-prototypical; *r* = -.22; p < .05).

As illustrated in Table 5, the achievement motive was significantly correlated with *Ach-Prototype* (r = .33, p < .001), and also with *Aff-Prototype* (r = .19, p < .05). This result indicates that there is a relationship between achievement motive and *Ach-Prototype*, as hypothesized, but also a relationship with *Aff-Prototype*. Hotelling's t-test for "correlated correlations" within a population showed that the correlation between the achievement motive and the *Ach-Prototype* differs significantly from the correlation between the achievement motive and the *Aff-Prototype*, t(118;5%) = 1.66.

Table 5 Association (Pearson correlation) between motive scores and motive-thematic leader prototypes in Study 2 (N = 121)

		1	2	3	4	5	6	*M*	*SD*
1	Affiliation Motive	1	-.06	.04	-.16	.01	-.01	3.67	1.86
2	Achievement Motive		1	.06	.33**	.18	.19*	4.83	1.45
3	Power Motive			1	.12	.00	.01	3.19	1.98
4	*Ach-Prototype*				1	.05	.53**	5.90	0.77
5	*Pow-Prototype*					1	.10	6.44	0.43
6	*Aff-Prototype*						1	5.54	0.83

* p < .05 ** p < .001.

Predicting Leadership Prototypes from Achievement, Power and Affiliation Motives

With regard to motives and leader prototypes, we assumed that a motive would predict a similar leadership prototype (achievement motive predicts *Ach-Prototype* and so on). However, in preliminary analyses we found the correlations to contradict our hypotheses. Firstly, the power motive displays a zero correlation with the *Pow-Prototype* and, secondly, the achievement and affiliation motives and their related prototypes are all correlated with each other. Thus, in the analyses that follow, we investigated the interaction between the achievement and affiliation motives, and its influence on, firstly, the *Ach-Prototype* and, secondly, the *Aff-Prototype,* rather than testing individual motives to predict a similar leader prototype. The ratings for the *Ach-* and *Aff-Prototypes* were analyzed by employing the following two separate regression approaches: the achievement and affiliation motives were entered in the first step of a hierarchical regression analysis, followed by their multiplicative one-way interaction term, which was entered as a second block (Aiken & West, 1991).

Predicting Ach-Prototype

As hypothesized by us, the analysis yielded a significant main effect of the achievement motive on the *Ach-Prototype*, $b = .23$, $se_b = .68$, $\Delta R^2 = .21$, $t(114) = 3.61$, $p < .001$. Moreover, regression analysis showed a significant main effect of the affiliation motive ($b = -.15$, $se_b = .68$, $\Delta R^2 = .21$, $t(117) = -2.42$, $p < .05$) and a significant interaction effect between the achievement and the affiliation motive, $b = .28$, $se_b = .68$, $\Delta R^2 = .26$, $t(117) = 3.92$, $p < 001$. To graph this interaction effect, we computed scores of the *Ach-Prototype* for predictor values of one standard deviation above and below the mean of each predictor. Figure 2 shows that participants with a low explicit achievement and a high explicit affiliation motive scored lowest on the index for the achievement leadership prototype. Correspondingly, simple slope analyses (O'Connor, 1998) confirmed that the explicit affiliation motive was negatively related to the *Ach-Prototype* when the explicit achievement motive was low (one

standard deviation below the mean), β = -.43, $t(117) = -5.72$, $p < .001$. When the explicit achievement motive was high (one standard deviations above the mean), the affiliation motive was significantly positively related to the *Ach-Prototype*, β= .13, $t(117) = 2.42$, $p < .05$.

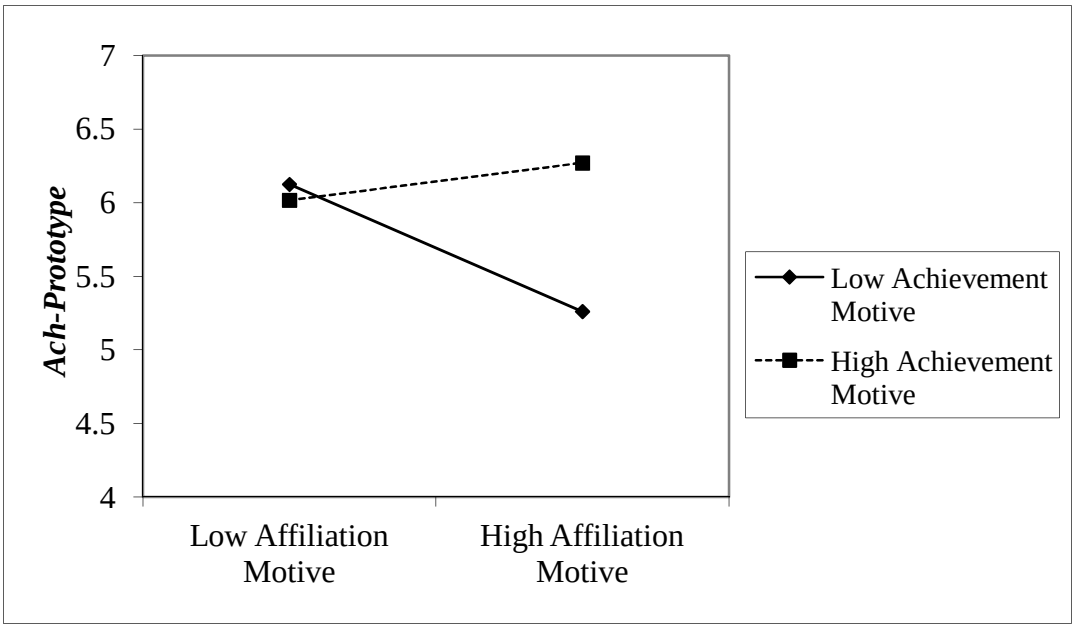

Figure 2 Achievement leadership prototype (Ach-Prototype) as a function of explicit achievement motive and explicit affiliation motive in Study 2.
NOTE: Low and high values correspond to one standard deviation

Predicting Aff-Prototype

Similarly, a second hierarchical regression analysis was conducted with regard to the *Aff-Prototype*, which yielded a main effect neither of the affiliation nor of the achievement motive, but an interaction effect between the achievement and the affiliation motive ($b = .15$, $se_b = .81$, $\Delta R^2 = .03$, $t(117) = 1.97$, $p = .05$). To plot this interaction effect, we used the procedure outlined above and computed scores of the *Aff-Prototype* for predictor values of one standard deviation above and below the mean of each predictor. Figure 3 suggests, and simple slope analyses confirmed, that when the affiliation motive was high, the achievement motive was positively related to the *Aff-Prototype* (one standard deviation above the mean), β = .28, $t(117) = 4.10$, $p < .001$. When the affiliation motive was low, the achievement motive

was unrelated to the *Aff-Prototype* (one standard deviation below the mean; β = .01, *t*(117) = 0.13 , *p* = .89).

With regard to our analyses of three motives and corresponding prototypes, no other significant results were found.

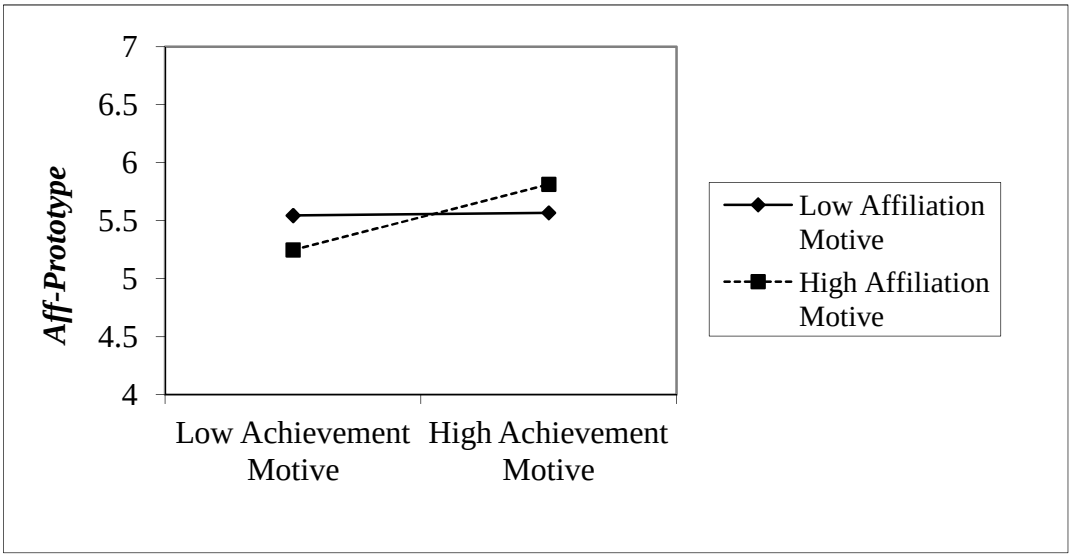

Figure 3 Affiliation leadership prototype (Aff-Prototype) as a function of the explicit achievement motive and the explicit affiliation motive in Study 2.
NOTE: Low and high values correspond to one standard deviation

Brief Discussion

The CFA in Study 2 supports the results of Study 1 by replicating a three-dimensional (motive-thematic) structure (achievement, affiliation and power) of leadership behavior in a different sample of management trainees. Study 2 provides partial evidence for our assumption that motives are related to motive-specific leadership prototypes. Our hypothesis that explicit achievement, affiliation and power motives predict the corresponding leader prototypes can be confirmed only for the achievement leader prototype. Regression analysis showed that participants with a high achievement motive score higher in ratings of the achievement leadership prototype than participants with a low explicit achievement motive. Generally speaking, participants rated the achievement leader behavior as being highly

prototypical, irrespective of their motive characteristics. With respect to the affiliation and power leader prototypes, our data do not confirm our hypotheses. This means that the affiliation leader prototype was not predicted by the affiliation motive and the power leader prototype was not predicted by the power motive. Surprisingly, our data revealed interaction effects between the achievement and the affiliation motive regarding the achievement and affiliation leadership prototypes. Taken together, our results show that motives play a role in participants' perception of leader prototypical behavior, but they suggest that the relationship between interacting motives is perhaps more complex than a single motive having a substantial influence on leader prototypes.

Discussion

The present research suggests a theoretical link between the motivational and leadership approach. Our pilot study, in which experts classified most of our predetermined prototypical leader behavior attribute groups as being associated with more or less of a power, achievement, or affiliation motive, provides some initial support for the assumption of a motive-thematic anchoring of prototypical leader behavior. Study 1 supported our theoretical and empirical assumption with a structural equation model which proved and confirmed the prototypical leader affiliation, achievement and power dimensions of the D-ILT, a scale that measures leader prototypes. Study 2 confirms the three-motive dimensional structure of leader prototypes resulting from Study 1 by replicating this in a sample of students who may go on to become the next generation of leaders. As hypothesized, Study 2 yielded evidence that motives are linked to leader prototypes. However, our expectation what the three motives – achievement, affiliation and power – would predict corresponding leadership prototypes, was not supported by our data, except in the case of achievement. Participants with a high explicit achievement motive rated leader behavior that can be categorized as achievement leader

behavior as being more supportive for a leader than participants with a low explicit achievement motive. Contrary to our hypothesis, power motive scores showed zero correlation with the power prototypical behavior patterns. Surprisingly, the results of Study 2 showed a coherence between achievement and affiliation leader prototype and the two related motives (achievement and affiliation), which does not conform to our hypothesis. Instead, the data showed a more complex influence of more than one motive on the ratings of prototypical leader behavior, namely the achievement and the affiliation motive. Using different methods – expert ratings, factor and regression analyses – these three studies firstly investigate and partially support our assumptions about motives being linked to specific leader prototypes.

The present studies extend the theoretical and empirical basis regarding a central issue in current leadership research, namely looking at the phenomenon of leader prototypes from another research perspective – that of motivational psychology. One main theoretical value of these findings is that we have broadened the horizon of leadership research by elaborating the link between explicit motives and leader prototypes for the first time. Previous leadership research looking at the antecedents of different prototypes has focused either on cultural (Brodbeck & Frese, 2007; Dorfman et al., 2004; House, 1999) or on gender differences (Paris et al., 2009). Until now, leader prototypes have not been linked to concepts of motivational psychology. Previous research has neglected to investigate how followers perceive their leaders. Our work is consistent with the demands of current leadership researchers who criticize leader-centrism and argue that leadership is predominantly in the eyes of the follower. A ‘cognitive revolution in leadership research’ (Lord & Emrich, 2001, p. 551) has begun which focuses on the perception of followers (e.g., Ayman, 1993; Felfe & Schyns, 2006; Schyns, Kroon & Moors, 2008). Our work is in line with these cognitive research goals. Thus we have concentrated on a first link between the two concepts – motives and leader prototypes – in order to clarify how different perceptions develop and occur in individuals.

Our research into the motives linked to leadership prototypes further contributes to the overall clarification of leader-follower interaction processes. Recent LMX researchers have highlighted aspects of personality, e.g. needs, linked to the perception of leadership and LMX (e.g., De Vries, Roe, & Taillieu, 2002; Schyns et al., 2008). For example Graen (2003) has shown that differences between people have consequences for accepting and perceiving LMX. Our work extends the theoretical and empirical basis in focusing on motives as important motivational antecedents of leadership perception and thus a factor influencing mutual LMX.

The present research suggests that achievement plays a key role in the work setting. We have demonstrated a main effect of the achievement motive on the achievement leader prototype. Our results in Study 2 show that the achievement motive is significantly correlated with leader prototypical behavior patterns (*Ach-Prototype*, $r = .33$, $p < .001$; *Aff-Prototype*, $r = .19$, $p < .05$). One explanation as to why we only found effects for achievement could be that leader prototypes are anchored in an achievement context. In the present research we provide evidence that motives are relevant in a special context, namely, for the perception of a person in the work domain. Achievement is an especially important issue for students (our sample in Study 2) and may be a more tangible one than power. This is perhaps why achievement motivation plays the most important role here.

Our research is consistent with previous work, which provided evidence for the relevance of motive themes in a leadership context (e.g., Jacobs & McClelland, 1994; McClelland & Boyatzis, 1982; McClelland & Franz, 1992). McClelland and Boyatzis predicted managerial success by means of a motive constellation, the LMP, a personality construct defined by high power motivation and low affiliation motivation (and high activity inhibition). Regarding our results for affiliation and achievement leader prototypes, regression analyses show that it is not a single motive but rather a more complex interaction of motives

that is related to them. Our data from Study 2 show that, besides the main effect on the achievement prototype, the achievement motive was, contrary to our hypothesis, also related to the affiliation leader prototype. The achievement and affiliation prototypes were highly correlated with each other ($r = .53$; $p < .001$) and achievement and affiliation motives interacted when predicting these two prototypes. Post-hoc analyses with respect to the achievement leader prototype show that participants with a high affiliation motivation who scored low on achievement motivation rated prototypical achievement leader behavior significantly lower than those with a high achievement motivation. We only can speculate about the reasons why our participants with low scores in achievement and affiliation motives rated the achievement prototype higher than participants scoring low in achievement and high in affiliation. It may be possible that this is a case of the difference-game principle (a zero or positive difference with regard to achievement leads to a positive rating, while a negative difference, with the affiliation motive higher than the achievement motive, leads to a lower rating of *Ach-Prototype*). With regard to the affiliation leader prototype, our analysis revealed that, when the affiliation motive was high, the achievement motive was positively related to *Aff-Prototype*. Surprisingly, participants with a high affiliation and a low achievement motive scored lowest on both the achievement and the affiliation prototypes with respect to all motive constellations. With regard to motive-specific leadership prototypes, future analyses could specifically analyze achievement-affiliation motive constellations in more detail to prove their relevance. Our results extend previous motivational approaches by providing evidence for a complex impact of the constellation of motives. A more integrative approach has to be used when considering motives, because they interact.

Our work represents a first theoretical, exploratory and empirical approach to leadership prototypes linked to individual motives and should be empirically continued in future studies. Future research on motives, including other personality and situational variables – such as the big five personality factors, personal goals or retrospective experience

with leaders – could perhaps help to produce a deeper understanding of the origin of different leadership prototypes.

The studies reported here have certain limitations. Firstly, they were mainly conducted on student samples. Further research will have to investigate whether the observed findings also apply to other groups, for example employees in different real work contexts and industries. Our work did not control for cultural differences - the sample was only recruited in German-speaking countries.

A second limitation concerns the measures used in the present studies. We asked participants' about their motives and leader prototypes and, as a result, our data depend entirely on self-reports. A replication using implicit motive measures, in which participants have to write imaginative stories in response to picture cues, such as the Picture-Story Exercise (PSE; cf. Schultheiss & Pang, 2007), could also provide valuable insights. Although the PRF is most often used in research on motive dispositions, the scale's internal consistency was only moderate in the present research. Our measure of leadership prototypes, the D-ILT, contains a lot of anti-prototypical attributes which reflect our power leader prototype. With respect to the variable of the power leader prototype, our data did not display a normal distribution. This may be interpreted as follows: that most of the participants of our Study 2 rated anti-prototypical attributes as a hindrance to being an outstanding leader (leader prototype). Anti-prototypical leader behavior may thus not depend on participants' individual power motives. Purely speculatively, the lack of hypothesized effects regarding the prediction of (anti-)prototypical power leader behavior can thus perhaps be explained by ceiling effects.

To replicate the relationship between motives and leadership prototypes, more objective indicators of the preference for leadership prototypes could be used. For instance, an experimental study might manipulate different leadership prototypes, measure motives and investigate observed behavior displayed by potential followers towards different leader

(proto)-types. Behavior such as indicators of communication, facial expressions and gestures, could be assessed in various interaction settings. This last aspect points to a further limitation: that our correlational data constrains us to discussing the relationship between the variables, rather than allowing us to consider causal implications, because it is cross-sectional. Prospective research should use different designs, for example experimental designs using vignettes or scenario methods, or longitudinal designs.

Consequently, we are convinced that culture *and* personality program the mind (concerning leadership prototypes). Aside from culture, motives influence our perception of specific leader behavior characteristics in that they shape our expectations about this behavior to help us to satisfy our motives and fulfill our goals.

Conclusion

The main purpose of this study has been to prove that leadership prototype differences vary between individuals due to their motives. Using expert ratings we were able to demonstrate the relevance of motive themes in the context of leader prototypes. Thus, we were able to extract three dimensions of leader prototypical behavior, not on the basis of culture, as previous research did, but on the basis of motives. We identified leader behavior patterns which are characterized more or less by one of three motive categories: achievement, affiliation and power. Despite the fact that we were not able to predict three motive-specific leader prototypes from the corresponding motives, we have demonstrated that motives, and moreover motive constellations, play a remarkable role with regard to leader prototypes. We also offer arguments supporting the idea that a perception of outstanding leadership is a function of situation *and* person. Besides a proven, culturally endorsed leadership prototype, we offer a new perspective: the motivationally (individually) endorsed leadership prototype.

We claim that there are stable fundamental aspects of personality, expressed through individual motives, which energize and direct human behavior and co-determine work relationships between leaders and subordinates. Thus we are challenging the version of global convergence with respect to management strategies and leadership ideals.

While claiming that this study has shed some further light on the relationship between implicit leadership theories and personality factors, we remain aware of its limitations. Since our findings are restricted to initial exploratory and correlative analyses, the study as a whole and our assertions about a view of motives must necessarily be tentative and speculative.

Our particular claim regarding the embedding of personally endorsed leadership prototypes clearly calls for further investigations in future research, whereby proper attention should be paid to the further theoretical and empirical investigation of both the relationship between motives and leadership prototypes, and other aspects of personality.

Part II

1.

Dyadic Motive Similarity:

Influence of Achievement Motive Constellations on

Leader-Member Exchange Quality and Work-Related

Outcomes

Abstract

Current leadership research is engaged in revealing the as yet unknown antecedents to the relationship quality of leader-member dyads (leader-member exchange quality; LMX quality). Couple and motive researchers conceive of relationships, and their quality, as being influenced by the satisfied or frustrated motives of the dyadic interaction partners. In our research we have integrated these three lines of research and investigated the influence of achievement motive constellations on LMX quality and several work-related outcomes. We hypothesized that work-related outcomes should be predicted by dyadic motive similarity and that these relationships should be mediated by a high-quality LMX. To test our hypothesis we conducted a cross-sectional study with 45 leaders and one direct subordinate. As hypothesized, we were able to show with regard to the LMX quality of followers, that similar low or high achievement motives in dyadic partners were associated with a higher LMX quality. Moreover, members' LMX quality was shown to have an indirect effect on the positive relationship between motive similarity and the followers' job satisfaction, in-role behavior, organizational citizenship behavior and subjective well-being. Our research integrates leadership, couple and motive research. Moreover, it broadens the perspective of previous motive research from an individual to a dyadic analysis.

Introduction

Over the past two decades, there has been a growing interest in the quality of the dyadic relationship in leader-member exchange (LMX; van Gils, van Quaquebeke, & van Knippenberg, 2010). Numerous studies have demonstrated that a high-quality LMX positively affects work-related outcomes such as follower performance, commitment and job satisfaction (e.g., Gerstner & Day, 1997; Van Breukelen, Schyns, & LeBlanc, 2006). LMX research is particular interested in the conditions under which high LMX quality develops. Several studies have shown that aspects of personality are related to LMX quality (Bauer, Erdogan, Liden, & Wayne, 2006; Graen & Scandura, 1987; Kinicki & Vecchio, 1994; Phillips & Bedeian, 1994; Schyns, Kroon & Moors, 2008). In most recent LMX approaches, followers' ratings have been used to assess LMX quality. In recent years some authors have argued that characteristics of both the leader and the follower may be important for LMX, specifically in terms of their similarity. Thus, more research should focus on the dyadic interaction between leader and follower personalities (e.g., Liden, Wayne & Stilwell, 1993; Murphy & Ensher, 1999; cf. Schyns et al., 2008). We tie in our theorizing with research on couples, which has mainly been responsible for the dyadic approach, and with the concept of similarity. Couple researcher have suggested that couples with similar personalities and values experience better intimate relationships (cf. Acitelli, Kenny, & Weiner, 2001). Hiller and Day (2003) suggest similarity theory to be consistent with LMX theory. Whereas they investigated similarity in LMX in terms of attitudes and values related to the quality of the exchange relationship, we will address the motives of leaders and followers. More specifically, we apply the concept of similarity of traits in couple relationships to the similarity of motives in leader-member relationships. We conceive of social interaction in LMX as being influenced by motives, or more precisely as being a motivated behavior. More specifically, we investigate the influence of interacting achievement motives within leader-member dyads. Furthermore, we will address how specific achievement motive constellations are related to several work-related

outcomes and whether these relationships are indirectly affected by LMX quality. In the following, we will briefly summarize the theoretical line of argument with respect to LMX quality, motive constellations and work-related outcomes. Thereafter, we will touch upon a methodological issue regarding the analysis of dyadic data – interdependence.

LMX Approach

LMX research was originally introduced in the form of the Vertical Dyad Linkage model (Danserau, Graen, & Haga, 1975) and focused on the reciprocal influence processes within vertical dyads (one person having authority over another). In their LMX theory, Graen and Uhl-Bien (1995) posit that leaders form unique exchange relationships with each of their subordinates displaying varying qualities, in contrast to leadership theories which hypothesize that leaders with a predominant leadership style treat all their subordinates similarly. LMX theory uses the social exchange perspective (Graen & Scandura, 1987) to explain this, and why leader-member relationships with different qualities develop (Danserau et al., 1975; Graen & Cashman, 1975). In their "lifecycle model", Graen and Uhl-Bien (1991) suggest that relationships in a leader-subordinate dyad develop over time through three possible stages. LMX researchers have a strong interest in the third stage: the way in which high-exchange relationships develop and what their determinants are. According to this concept, a leader is likely to establish either a high-quality or a low-quality relationship with each subordinate, whereby not all dyads are able to establish high-quality relationships. For us the fact that not all leader-member dyads are able to establish high-quality relationships seems very plausible, because we assume that two individuals who possess different personalities and motives may not fit together. This idea reinforces the question that recent literature sets out to answer: What are the preliminary indicators for high-quality LMX in both the leader and the subordinate?

In fact, the literature lacks clarity as to what the antecedents of low- or high-quality

relationships are (Van Breukelen et al., 2006). Followers' characteristics have been investigated as antecedents of LMX quality. Graen (2003), the inventor of LMX theory, posits that differences between people have consequences for perceiving LMX. Several studies have shown that ratings of leadership quality are influenced by the followers' personalities, their needs and characteristics (e.g., De Vries, Roe, & Taillieu, 2002; Felfe & Schyns, 2006; Schyns & Felfe, 2006; Schyns et al., 2008). Empirically, followers' characteristics such as growth need strength (Graen, Novak, & Sommerkamp, 1982), extraversion (Phillips & Bedeian, 1994) and locus of control (Kinicki & Vecchio, 1994; Phillips & Bedeian, 1994) have been found to be related to LMX. While our study focuses on the relationship quality of leaders and followers, prior studies have mainly concentrated on explaining why different LMX qualities develop (Schyns et al., 2008). In their recent work, Schyns and her colleagues (2008) aim at the relationship between followers' characteristics and the LMX quality of the followers (i.e. the followers' perception of LMX). Their results indicate that the followers' need for leadership and dependence are related to their LMX quality. They speculate that "However, researchers can expect an influence on followers' perception of LMX due to follower needs." (Schyns et al., 2008, p. 782). With regard to the role conceptualizations of leaders and followers, although van Gils and her colleagues (2010) emphasize the role of motivational concepts, past studies have not empirically linked LMX quality to specific motives as a preliminary condition for high-quality LMX before. There seems to be a consensus in LMX research that the appropriate unit of analysis of a dyadic relationship is the dyad (Van Breukelen et al., 2006); thus our study focuses on a dyadic approach and investigates motives of both leaders and followers, and their motive constellation.

Concerning the dyadic approach to LMX, there is some empirical support for the assumption that similarity between leaders and members is related to the quality of the exchange relationship. Whereas only weak relationships have been found in terms of demographic characteristics, such as age, education and gender, (Bauer & Green, 1994;

Green, Anderson, & Shivers, 1996; Tsui, Xin, & Egan, 1995), similarities in attitudes and values (for a discussion on deep- and surface-level similarity in the context of LMX, see Hiller & Day, 2003), for instance values with respect to goals in life (Phillips & Badeian, 1994), have been significantly related to LMX quality. What goals we pursue depends on our individual needs and motives. According to our first hypothesis, one condition for high- or low-quality LMX to occur may be that the two parties match or differ in their motives and thus their perceptions of the contribution made to the joint relationship (cf. Huang, Wright, Chiu, & Wang, 2008). These contributions within leader-follower work relationships are related especially to achievement goals and the tasks that leaders and followers agree upon beforehand in their dyadic exchange process. We assume that achievement motivation plays a special role in determining how leaders and followers interact as they pursue competence in their daily work lives. We therefore focus on how leader-follower relationships depend on the interaction between their achievement motives. More specifically, based on the principle of social exchange we suggest that a high LMX quality develops when two individuals with similar achievement motives interact and may be a good match.

Moreover we focus on the link between high-quality LMX and work-related outcomes. It is not disputed that a high-quality LMX has beneficial effects. These are evident and a large number of studies empirically support these effects by showing that subordinates in a high-quality LMX are more satisfied with their leader in their work relationship (Duchon, Green, & Taber, 1986; Lagace, 1990), experience greater job satisfaction (Gerstner & Day, 1997; Graen & Cashman, 1975; Graen et al., 1982; Scandura & Graen, 1984; van Breukelen et al., 2006), perform better (Graen et al., 1982; Mayfried & Mayfried, 1998; Vecchio & Norris, 1996), and are more committed to and less motivated to leave the organization (Scandura & Graen, 1984; Vecchio & Norris, 1996). We particularly emphasize that our work addresses motives as antecedents of LMX quality, although there is other important LMX

research, for instance on the LMX agreement between leader and follower. Nevertheless, we should keep in mind the fact that a high-quality LMX does not always translate into such good work-related outcomes. In fact, some researchers argue that a crucial condition is that the relationship is experienced as a high-quality LMX by *both* parties in the dyadic work relationship (Altwater & Yammarino, 1992; Cogliser, Schriesheim, Scandura, & Gardner, 2009).

Approach on Motives and Interpersonal Motive Constellations

Research on human motives was spearheaded by McClelland (1985) and his colleagues. In his theorizing, motives are defined as enduring preferences for specific classes of incentives (McClelland, 1985; Schultheiss, 2008). McClelland (1985) further posits that "… motives drive, direct and select behavior toward certain actions and goals…" (p. 10). Most research on motives has focused on three kinds of motives which are assumed to be relevant in the social domain: power, affiliation and achievement. The power motive is driven by a feeling of potency through having an impact on others; the affiliation motive underlies feelings of relatedness and warmth when establishing and maintaining positive relationships (McClelland, 1985); and the achievement motive is driven by the thrill of challenge and the pride of accomplishment. Achievement motivation is assumed to play a special role in determining how people – leaders and followers – interact as they pursue competence in their work lives. For instance, in their role, leaders delegate tasks to followers and control their fulfillment. Subordinates have the role of fulfilling their tasks based on achievement criteria defined by their leaders. Our study therefore focuses on and discusses achievement motives and this motivation domain.

"Self-attributed [explicit] motives are based on cognitively elaborated constructs" (McClelland et al., 1989, p. 690). Explicit motives are stimulated more through social-extrinsic incentives and regulate prompt responses to structured situations (Brunstein &

Maier, 2005; McClelland et al., 1989). The different functioning of explicit versus implicit motives, which describe the second motivational system (besides explicit motives), in many achievement settings is well-established in the literature (Koestner & McClelland, 1990; McClelland, 1985; McClelland et al., 1989; Schultheiss, 2008; Schultheiss & Brunstein, 2005; Thrash, Elliot, & Schultheiss, 2007). However, so far there has been no dyadic research into explicit achievement motives. With regard to social relationships, past authors have merely investigated individual differences to predict interaction-related outcomes. Individual differences are known to account for a significant variance in social behavior (Kenny, Mohr, & Levesque, 2001; cf. Conroy, Elliot, & Pincus, 2009). For instance, Conroy and his colleagues (2009) found that individual dispositional achievement motives are related to people's characteristic interpersonal expressions. With respect to the second issue of dyadic analysis we want to investigate in this study, we focus on the potential positive effect of dyadic achievement motive similarity on relationship quality.

Couple Approach

While this phenomenon is still in its early stages in leadership research, couple researchers have been interested in it and investigated it for several decades now: the interplay between the interpersonal characteristics of dyadic partners in association with the quality of their relationship. Horowitz and colleagues (Horowitz, 2004; Horowitz, Wilson, Turan, Zolotsev, Constantino, & Henderson, 2006) propose "…interpersonal motives as important determinants of interpersonal functioning and interpersonal problems" (see also Elliot, Gable, & Mapes, 2006; Gable, 2006) (p. 1097). Several studies show that the similarity between romantic partners has an influence on the quality of their relationship. For instance, Acitelli and his colleagues (2001) emphasize the consideration of similarity of several characteristics – such as behavioral pattern, personality factors, ideals and values – in their approach to spouses. Although researchers disagree on what plays a more important role: similarity or an

accurate perception of the other (e.g., Acitelli et al., 2001; Pietromonaco, Rook, & Lewis, 1992), there is verifiable empirical support that similarity between couples plays an important role with regard to experiencing better intimate relationships (Dymond, 1954; Farber, 1957; Levinger & Breedlove, 1966; Acitelli et al., 2001).

To summarize our hypotheses, we build on the concept of similarity (e.g., Acitelli, Kenny, & Weiner, 2001) which is based on similarity-attraction theory, originally introduced by Byrne (1971), and therefore transfer the idea of similarity in couples' personality to similarity in explicit achievement motive constellations in leader-member relationships. It seems plausible to us that leaders and followers with a similar achievement motive will have a similar understanding of a high or low individual requirement and of the performance that is expected as an individual contribution to the work success of this leader-member exchange. Conversely, for example, a highly achievement-motivated leader would probably overtax a low achievement-motivated subordinate, and a highly achievement-motivated subordinate would eventually have no respect for a supervisor who has, in his eyes, too low an achievement motive. Thus, we expect leader-follower dyads in which both individuals have high or low scores in achievement motivation, to report higher relationship quality than work partners where one individual scores high on the achievement motive and the other one low.

Actor-Partner Interdependence Model

A theoretical perspective which takes a dyadic perspective requires a special and appropriate statistical technique to analyze this dyadic data. In this regard we take into account the Actor-Partner Interdependence Model (APIM; Kashy & Kenny, 1999; Kenny, 1996). The APIM integrates a conceptual framework used to ask theoretically about the interdependence between partners, and a tool for exploring the interpersonal processes that characterize the development of relationships. Interdependence exists when one person's

emotion, cognition, or behavior affects the emotion, cognition, or behavior of a partner and vice versa (Kelley & Thibaut, 1978; Kelley, Holmes, Kerr, Reis, Rusbult, & van Lange, 2003; cf. Cook & Kenny, 2005). So far, the model has been recommended in the area of the study of families (Rayens & Svavadottir, 2003), close relationships (Campbell & Kashy, 2002) and small groups (Bonito, 2002). As it occurs in close relationships or small groups, LMX too is an inherently interpersonal dyadic phenomenon in which the thoughts, feelings, and behaviors of one partner in the relationship are interdependent with those of the other. Thus, we build on the Actor-Partner Interdependence Model when assessing LMX relationships.

Within the APIM an individual's own outcome is predicted by factors that vary on two levels: on the level of the *actor* and on the level of the *partner*. This means that all parties in the APIM framework are both an actor and a partner. The same behavior can be the product of both actor and partner effects. According to APIM, actor effects should be estimated while controlling for partner effects in order to be measured accurately. Partner effects measure how much one person is influenced by a partner. We use the principles of the APIM framework in our investigation of whether achievement motive predicts individuals' LMX quality with their partners and study achievement motive in terms of (a) the effect of the respondent's own achievement motive on his or her LMX quality (the *actor effect*), and (b) the effect of the partner's achievement motive on the respondent's ratings of LMX quality (the *partner effect*). In addition to *actor* and *partner* effects, we are particularly interested in (c) the *interaction* effect, namely the effect of the achievement motive constellation of leaders and followers ($san_{Ach\ LF}$) on LMX quality. Figure 1 illustrates our APIM, containing motives, motive constellation and LMX qualities. Please note that outcomes are jointly determined by predictors on the actor and partner levels, so the pattern of actor and partner effects provides insights into the dynamic and reciprocal nature of the interaction.

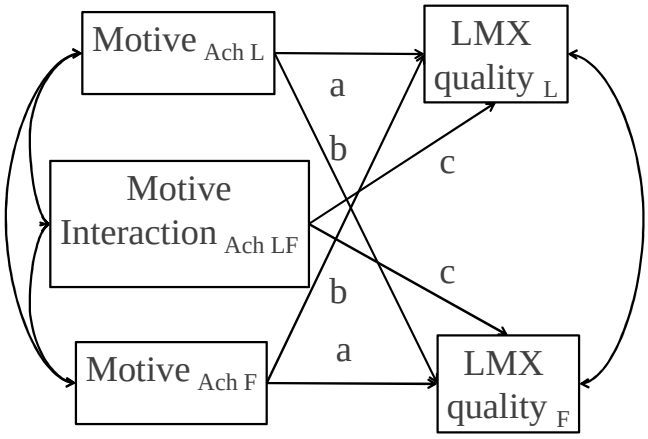

Figure 1 The Actor-Partner Interdependence Model (APIM) including the achievement motive constellation of the leader and the follower (Motive Interaction $_{\text{Ach LF}}$). Achievement motive constellation, achievement motive of the leader and of the follower predict LMX quality. Single-headed arrows indicate causal or predictive paths. Double-headed arrows indicate correlated variables.

The Present Research

In order to investigate whether the achievement motives of leaders and subordinates are related to LMX quality and work-related outcomes, the present research integrates the LMX, motive and dyadic couple approaches described above. We focus on the influence of similar versus opposite achievement motive constellations on the LMX between leaders and followers. We conceive of LMX quality as being an outcome of the dyadic leader-member relationship and the interaction between two parties – the leader and the subordinate. More specifically we assume that – just as recent research has posited for coexisting motives within a single individual – inter-individual motives may be behaviorally compatible, or they may conflict. To the best of our knowledge no investigation of dyadic motive constellations associated with LMX have been published so far.

Our hypotheses focus on a leader and direct subordinate dyad which has been working together for some considerable time. It is likely that a reasonable duration of employment, in

which the specific LMX is possible, will be a necessary condition for differentiating a LMX quality. Thus, we conducted a cross-sectional dyadic study which investigated the achievement motives of managers and one subordinate each, who have been in a work relationship for at least one year. Following the approach used with couples, specifically the principle of similar personalities, we hypothesize that a high LMX quality is predicted by similar achievement motive constellations of the leader and the follower (both high/both low achievement motives). Moreover, we assume that leader-member motive constellations are related to work-related outcomes and that these relationships are therefore indirectly affected by LMX quality. More specifically, we hypothesize that achievement motive similarity between leaders and followers will be positively related to in-role behavior (IRB; Williams & Anderson, 1991), organizational citizenship behavior (OCB; Organ, 1988), job satisfaction (Warr, Cook, & Wall, 1979), affective commitment (Meyer & Allen, 1991) and subjective well-being (Schallberger, 2005).

To sum up, there is a lot of theoretical but little empirical support concerning the conditions under which a high LMX quality arises. If our assumptions hold, we would have a clear indication that leader-member achievement motive similarity is an antecedent condition for a high LMX quality. This first investigation of possible dyadic antecedents opens a wide avenue for further research, particularly with regard to intervention programs for leader-member dyads.

Method

Participants and Procedure

We matched dyads with a total of 45 leaders (12 female and 33 male, mean age 45.16 years, SD = 8.61) and followers (23 female and 22 male, mean age 41.89 years, SD = 12.52). Participants voluntarily filled out a series of psychological tests concerning their personality

characteristics as well as work-related variables. The leaders and subordinates received a results report and a book in return for participating in our study.

Two online surveys were prepared, a leader and a follower version. First we sent a link to our study to the human resources representative of a leading Swiss company in the insurance industry. The human resource manager then sent emails including the link to a total of 420 managers, within one month. Use of German and the possibility of regular interaction with participating subordinates were defined as inclusion criteria for the managers. Each manager was able to start directly and fill in our online survey in about 30 minutes. In the leader subsample 110 leaders started to reply to the survey. Until the end of the survey 30 leaders have dropped out, what means a total of 80 leaders filled in the complete questionnaire. Included in the leader version, besides general instructions, was an explanation on how to invite a direct subordinate to the study. The subordinate whose surname began with the letter closest to *M* was chosen, in order to guarantee that leaders randomly selected the follower they would be referring to in the questionnaire. They might otherwise have chosen the subordinate they liked best or least. After leaders had finished the survey, they invited their subordinate by email, including the link and a shared code for later matching. 57 subordinates started to fill in the survey, only three dropped until the end.

Measures

Achievement Motive Assessment. To measure motives, we used the Personality Research Form (PRF; Jackson, 1974; Stumpf, Angleitner, Wieck, Jackson, & Beloch-Till, 1985). The PRF inventory measures verbally represented motives that people have about their outlasting affective preferences, which can be assessed by self-report (McClelland et al., 1989). Participants completed a short version of the achievement scale (PRF-AC), which consists of 6 of the original 16 statements (e.g., “In my work I seldom do more than is necessary.”) and can either be accepted or rejected. The short version is based on another study with a sample

of 225 students implemented at the University of Zurich. The short scales correlated highly with the complete PRF scale in this sample for achievement (San Ach) r = .69). After recoding the revised items, we computed an explicit achievement motive (san ach) index by summing up the items. The internal consistency of our achievement scale was .32[5] (M = 5.53, SD = .66) for leaders and .43 (M = 5.36, SD = .88) for followers. The scores were converted to z scores for further analysis.

Relationship Quality. We assessed relationship quality using the 7-item adapted satisfaction in couple relationships scale (ZIP; Hassebrauck, 1991). Items (e.g., "How satisfied are you with your relationship with your subordinate / leader?") are rated on a 7-point Likert scale: "This statement applies to me: (1) very strongly, … (4) moderately, … (7) not at all." After recoding the revised items we computed two relationship quality indexes (LMX quality), for leaders (LMX quality$_L$; M = 6.15, SD = .55) and followers (LMX quality$_F$; M = 6.33, SD = .59). Cronbach's alpha was .82 (LMX quality $_L$) and .83 (LMX quality $_F$).

Work-related outcomes.

Job satisfaction. To measure job satisfaction we worked with a translated German version of a scale by Warr, Cook and Wall (1979). Responses are given using a 7-point Likert scale: "This statement applies to me: (1) not at all, … (4) moderately, … (7) very strongly." Sample items from this scale are: "How satisfied are you with the amount of responsibility you are given?" and "How satisfied are you with your fellow workers?" We computed the job satisfaction index by averaging all the items on the scale. In the present sample, the internal consistency was .88 for the leader job satisfaction scale and .86 for the follower job satisfaction scale.

[5] The scale's internal consistency did not satisfy the criterion, due to the fact that PRF items can either be accepted or rejected. Our data varied less because the participants in our sample were highly achievement motivated.

Organizational commitment. We measured organizational commitment using the 8-item affective commitment subscale (e.g., "I feel emotionally attached to this organization." and "I think that I could easily become as attached to another organization as I am to this one (r).") of Meyer and Allen (1991). After recoding all reverse items, we averaged the scores for leader (*M* = 5.30; SD = 1.02; Cronbach's alpha = .86) and follower commitment (*M* = 4.98; SD = 1.09; Cronbach's alpha = .80).

In-role behavior (IRB). We assessed IRB using five translated, positively worded items (e.g. "Meets formal performance requirements of the job."), from the 7-item in-role behavior scale developed by Williams and Anderson (1991). In-role behavior is defined as "behavior which is required or expected as part of performing the duties and responsibilities of the assigned role" (Van Dyne, Cummings, & Parks, 1995, p. 222). The scale contains seven items and is rated by the participants on a 7-point Likert scale: "This statement applies to me: (1) not at all, … (4) moderately, … (7) very strongly." We obtained reliabilities (Cronbach's alpha) of .84 for leaders (follower-estimated leader IRB) and .87 for followers (leader-estimated follower IRB).

Organizational Citizenship Behavior (OCB). Organ defines OCB as "behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization" (Organ, 1988, p. 4). We measured OCB using the 15-item scale of Williams and Anderson (1991). Additionally, this scale was contextually adapted for subordinates. Behavior was rated on a 7-point Likert scale (from 1 = not at all to 7 = very strongly) by leaders for their follower and vice versa. Sample items are: "Helps others who have been absent." and "Helps others who have heavy workloads." The reliability of this scale was .89 (follower assessment by leader) and .85 (leader assessment by follower).

Subjective Well-Being. To assess motivation-relevant well-being we chose one dimension, positive activation (PA), from Schallberger's (2005) PANAVA (Positive/Negative

Activation and Valence Assessment Scale). The PANAVA presents adjective pairs such as "satisfied – dissatisfied" and "relaxed – stressed", which are rated on a 7-point scale. Participants were asked to think about their recent well-being at their workplace. After recoding relevant items we computed a score for positive affect for leaders (Cronbach's alpha = .82) and followers (Cronbach's alpha = .84).

Results

Preliminary Analyses and Correlations

The descriptive statistics and zero-order correlations of all variables are presented in Table 1.

Strategy for Analysis and the Measurement Model

The primary focus of the study was to investigate our a priori model (Figure 2) in a structural equation model (SEM). We therefore translated our theory into a set of linear regression equations that are simply represented by arrows connecting the variables (Nachtigall, Kroechne, Funke, & Steyer, 2003). The aim of multiple regression analysis is to predict scores on a dependent or criterion variable (job satisfaction, commitment, OCB, IRB, PA) based on scores on multiple independent or predictor variables (san Ach_{L}, san Ach_{F}, san Ach_{LF}). In our SEM we entered the predictor variables in sets in a predetermined order that may infer some causal or potentially mediating relationships between the predictors and the dependent variable (Francis, 2003). We specified our hypothesized model and included LMX quality_{L} and LMX quality_{F} in the path diagram as potential indirect effects.

Table 1 Descriptive statistics and associations (Pearson correlation) between all variables

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Motive Ach_L	5.53	.66	1													
2 Motive Ach_F	5.36	.88	.02	1												
3 LMX $quality_L$	6.15	.55	-.18	.16	1											
4 LMX $quality_F$	6.33	.59	.14	.21	.30*	1										
5 Job $satisfaction_L$	5.41	.77	.29†	.22	.18	-.01	1									
6 Job $satisfaction_F$	5.41	.76	-.09	.20	.13	.29†	.20	1								
7 $Commitment_L$	5.30	1.02	.28†	.34*	.02	-.04	.50**	-.04	1							
8 $Commitment_F$	4.98	1.09	-.16	.29†	.06	.28†	.01	.54**	.27†	1						
9 IRB_L	6.44	.57	.20	.27†	-.01	.36*	.22	.38**	.20	.45**	1					
10 IRB_F	6.39	.50	.26†	.24	.46**	.15	.18	.23	.10	.24	-.14	1				
11 PA_L	4.97	.97	.21	.30*	.23	.04	.57**	.05	.26†	-.10	-.03	.29†	1			
12 PA_F	5.11	1.04	-.09	.40**	.35*	.31*	.37*	.51**	.15	.43**	.38**	.44**	.40**	1		
13 OCB_L	6.21	.60	.14	.49**	.38	.45**	.29†	.52**	.38*	.54**	.51**	.34*	.24	.46**	1	
14 OCB_F	6.08	.66	-.18	.31*	.43*	-.03	.18	.12	.18	.02	-.13	.64**	.29*	.28†	.16	1

Note: † p < .10. * p < .05. ** p < .001.

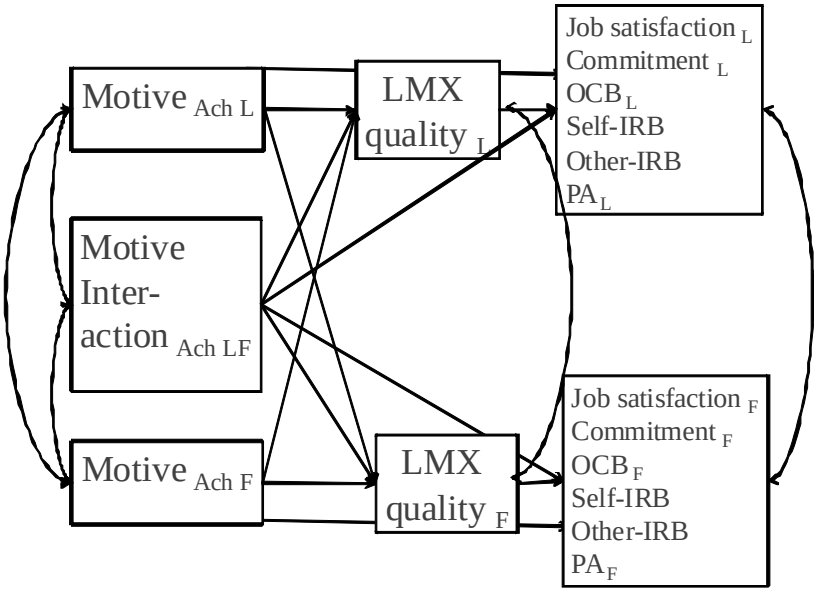

Figure 2 Overall model. The achievement motive constellation, achievement motive of the leader and of the follower predict LMX quality and work-related outcome variables of leaders and followers. Single-headed arrows indicate causal or predictive paths. Double-headed arrows indicate correlated variables.

Note: We tested separate models for job satisfaction$_{L/F,}$ commitment$_{L/F}$, OCB$_{L/F}$, self-IRB, other-IRB and PA$_{L/F}$. This model reflects a summary of all possible relationships of all models. Because of different theoretical assumptions, by us, not every path was tested with regard to every single predicted outcome variable. Therefore, regarding the model testing, different degrees of freedom result with regard to different models.

To sum up, our regression model predicts work-related outcomes based on leader and follower motives, and motive constellation indirectly affected by LMX quality$_L$ and LMX quality$_F$.

Results of the SEM

We analyzed the fit of several models, one for each work-related outcome: (1) job satisfaction, (2) affective commitment, (3) organizational citizenship behavior (OCB), (4) and (5) in-role behavior (self-IRB, other-IRB)[6] and (6) positive activation (PA). In the following step we therefore present estimated parameters for six models (Model ID 1 to 6). The structural equation models were evaluated using the software package AMOS 17.0 (Arbuckle, 2009).

[6] We tested two models for IRB, because we assumed that LMX would have an influence on both the self-IRB (assessed by the dyadic partner) as well as the other-IRB (assessed for the other party).

The fit coefficients are presented in Table 2. The models M1, M3 and M5 fit the data better than M2, M4 and M6.

Table 2 Goodness-of-fit statistics for the models

Model ID	$\chi 2$	*df*	p	CFI	RMSEA
M1: Job satisfaction	5.5	4	.24	.96	.09
M2: Commitment	8.0	4	.09	.88	.15
M3: OCB	5.7	3	.13	.95	.14
M4: Self-IRB	5.9	2	.05	.89	.21
M5: Other-IRB	3.6	3	.31	.98	.06
M6: PA	10.4	5	.07	.88	.16

Note: CFI = comparative fit index; RMSEA = root-mean-square error of approximation
Because of different theoretical assumptions, by us, not every path was tested with regard to every single predicted outcome variable. Therefore, different degrees of freedom result with regard to different models.

Figure 3 presents standardized regression coefficients for our APIM (see Figure 1). In our sample, the achievement motive constellations of leaders and followers predict the relationship quality of the subordinates. This finding supports our assumption and demonstrates that leaders' and subordinates' achievement motives interact and have an influence on the LMX quality estimated by the follower. The data did not show any significant effects with regard to the leaders' LMX quality.

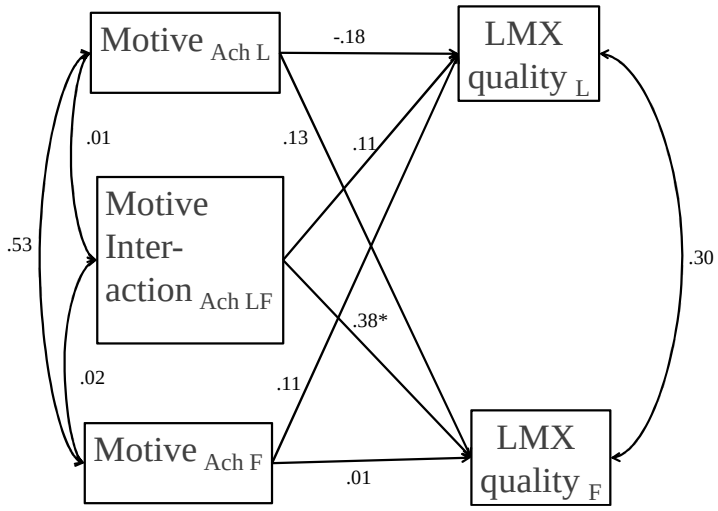

Figure 3 The structural equation model for the prediction of LMX quality.
Note: * p < .05.

Predicting LMX Quality$_F$ from Achievement Motive Constellation

In the next step we analyzed how leaders' and followers' motives interact. We therefore employed the following regression approach: the achievement motives of leaders and subordinates were entered as the first step of a hierarchical regression analysis, followed by their multiplicative two-way interaction term entered as a second block (Aiken & West, 1991). To graph this significant interaction effect (b = .37, se_b = .56, ΔR^2 = .17, CI [.04, .07], $t(41) = 2.27$, $p < .05$) we computed scores of *LMX quality$_F$* for predictor values of one standard deviation above and below the mean of each predictor. Figure 4 illustrates that similar achievement motives in leaders and followers (both high/both low) predict higher LMX quality scores in the subordinates.

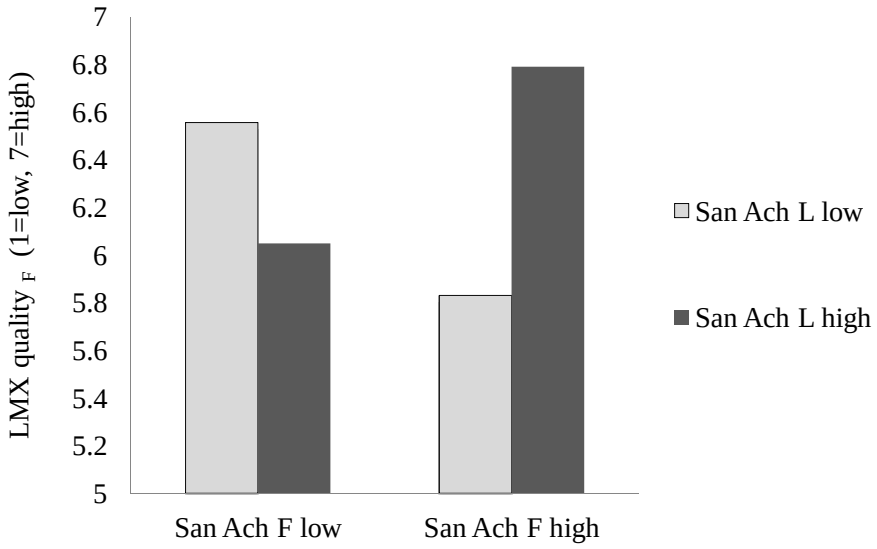

Figure 4 LMX quality of followers as a function of the achievement motive constellation of the leader (San Ach $_{L}$) and the subordinate (San Ach $_{F}$).
Note: Low and high values correspond to one standard deviation below and above the mean.

Correspondingly, simple slope analyses (O'Connor, 1998) confirmed that the achievement motive of subordinates was positively related to the subordinates' LMX quality when leaders' explicit achievement motive was high (one standard deviation above the mean), $\beta = .37$, $t(41) = 2.69$, $p < .05$). When the achievement motive of the leader was low (one standard deviation below the mean), the achievement motive of subordinates tended to be negatively related, though not significantly, to LMX quality $_F$, $\beta = -.36$, $t(41) = -1.57$, $p = .13$). These findings support our assumption that similar motives in leaders and subordinates are positively related to LMX quality.

Relationship between the Motive Constellations of Leaders and Followers and Work-related Outcomes Are Mediated by the LMX Quality of Followers.

To test the indirect effects of LMX quality$_F$ in predicting work-related outcomes, we used a highly valid and powerful method: the bootstrap (e.g., Shrout & Bolger, 2002; Williams & MacKinnon, 2008). Bootstrapping (Efron, 1982) is a versatile method for estimating the sampling distribution of parameter estimates and is one way of dealing with non-normal sampling or small sample sizes, as in our case. Table 3 presents standardized regression weights for all work-related outcomes predicted by the subordinates' LMX quality, two-tailed significance levels for all indirect effects and confidence intervals for the bootstrap.

Table 3 Coefficients for the analysis of the relationship between San Ach$_{LF}$ and all work-related outcome variables of the followers and the indirect effect of LMX quality $_F$

Work Outcome	ß	*S.E.*	*C.R.*	*p*	Lower Bounds	Upper Bounds	Standardized Indirect Effects – two-tailed significance
Job satisfaction $_F$	.33	2.82	2.21	.03	0.03	0.33	.02
Commitment $_F$	.25	0.27	1.75	.08	0.01	0.26	.06
OCB $_F$	.38	0.13	2.90	.01	0.03	0.33	.01
Self-IRB	.13	0.13	0.82	.41	-0.04	0.21	.30
Other-IRB	.29	0.15	1.92	.06	0.02	0.29	.04
PA $_F$	.30	0.25	2.17	.03	0.03	0.28	.03

The empirical findings of our bootstrap analyses show that subordinates' estimation of LMX quality has a significant indirect effect on the relationship between motive similarity of leaders and followers, and work-related outcomes. The higher the LMX quality is rated by followers, the more satisfied they are with their job and the more committed[7] they are, and the higher their organizational citizenship behavior and the IRB of their leader and their own well-being is estimated.

Discussion

The present research demonstrates that similar achievement motives in leaders and subordinates are positively related to the relationship quality of the leader-member exchange relationship and several work-related outcomes. We assumed leaders' and followers' motives to interact and their motive constellation to be antecedent to LMX quality and different work-related outcomes. For our study on achievement motive constellations, we hypothesized that a necessary condition for a high LMX quality is motive similarity between the two dyadic partners. The results strongly support our motive similarity hypothesis, but with regard to members' LMX only, not that of the leaders. Our study revealed that followers scored higher on their LMX quality in leader-member dyads with a higher similarity in the strength of the achievement motive. By showing this, our dyadic approach to leaders' and followers' motives empirically supports the similarity hypothesis we adapted from couple research (e.g., Acitelli, Kenny, & Weiner, 2001; Deal, Wampler, & Halverson, 1992) in the work context.

Different explanations are possible as to why we did not see the effect with regard to the leaders' LMX as well. Firstly, leaders and subordinates in a hierarchical relationship act in different roles with different related issues, so that achievement motive similarity may have a

[7] marginal significant

different impact on the LMX quality of leaders and followers. In other words, leaders and subordinates are expected to have different benchmarks for the assessment of the quality of their relationship. It seems plausible to us that similarity is positively related to the followers' assessment of LMX quality, because the requirement of the leader is likely to be proportionate in such a relationship and is also perceived as such by the subordinate. A meaningful theoretical explanation might be that followers identify more with a similar leader, respect him more and therefore assess the quality of their relationship as being higher than when a leader is perceived as being the opposite of oneself. With regard to identification with and respect for the leader, leadership research demonstrates (Eckloff & van Quaquebeke, 2008) that the subordinate is more likely to follow his leader if the leader is good in his eyes, because in this case he can identify with him (cf. Eckloff & van Quaquebeke, 2008, p. 169). With reference to previous studies, which found that followers' characteristics predict their LMX quality, future research into similarity should control for these determinants. Schyns and her colleagues (2008), for instance, found need for leadership and dependence to be positively related to the LMX quality of followers and posited: "On a more general level this means that needs are relevant in the perception of LMX" (p. 782). With regard to the leaders' perspective, our data also suggest, though not significantly, that a similarity in the pattern of achievement motives positively predicts the LMX quality of leaders. The small dyadic sample size in our study may limit the statistical significance of effects on the leaders' side.

Moreover, we assumed that LMX quality mediates the relationship between achievement motive constellation and several work-related outcomes. Our study showed that the relationship between motive similarity, as described above, and subordinates' job satisfaction, in-role behavior (external and internal), organizational citizenship behavior and well-being were significantly, and affective commitment marginally, indirectly affected by members' LMX quality. Our results replicate and are in line with existing LMX research

regarding the positive influence of a high LMX quality on several work-related outcomes (e.g. Gerstner & Day, 1997; Van Breukelen et al., 2006).

In the present research we focused on the achievement domain and investigated achievement motives. If the broader assumption also holds true that similarity between leader and follower characteristics, not only with regard to their achievement motives, promotes higher LMX quality, the results should be transferable to other human motives and domains, for instance to the affiliation domain (similarity of affiliation motives). In this domain, relationship quality should depend on similar affiliation motives between dyadic partners, for example both parties having a strong interest in connecting and participating with others and maintaining a warm relationship (McClelland, 1985). Several studies on interactions in long-term romantic relationships have shown that similarity in the affiliation dimension is associated with a higher relationship quality (Markey & Markey, 2007) and relationship satisfaction (Dryer & Horowitz, 1997). Furthermore, research on romantic relationships demonstrates that couples experience higher relationship quality and satisfaction when they are opposites on the control dimension (similarly to the power motive dimension). Thus, in a leader-member relationship with a hierarchical structure we would hypothesize that, in terms of the interaction of the power motives of dyadic partners, an opposite rather than a similar motive constellation should support a higher LMX quality. A constellation with similar power motives might be very threatening in this kind of work relationship, in which one person (follower) is under the control of another one (leader) and therefore expected to be submissive.

Our study has certain limitations, which are mainly of a methodological nature. Firstly, our cross-sectional questionnaire study design constrains us to discussing the relationship between the variables, rather than allowing us to consider causal implications. To discuss and investigate work interactions, which develop into mature relationships and

achieve a status of mutual trust and loyalty over time, a dyadic multi-method approach with a longitudinal design is required. Nevertheless, the fact that our results with regard to several work-related outcomes occurred with only a small sample of 45 dyads provides even stronger support for the significance of the results. The aim of future studies should be to replicate our findings concerning LMX quality of subordinates as well as to investigate the relationship between the achievement motive constellation and the LMX quality of leaders. Another methodological limitation of our study concerns the PRF measure. It would be important to replicate the results using other measures of explicit as well as implicit motives. Although the PRF is most often used in research on motive dispositions, the scale's internal consistency did not satisfy the criterion in the present research. This lack of reliability can be explained by the fact that items of the PRF can be either accepted or rejected. The participants in our sample were highly achievement motivated in general, which in turn produced less variance within the data. This fact is believed to have caused these unsatisfactory results in the reliability analysis.

A further relevant theoretical aspect we did not include in our investigation is to measure not only motives but also the (accurate) perception of the other, which is also considered by other researchers to play an important role (Acitelli et al., 2001; Pietromonaco et al., 1992). Besides this, future research should scrutinize whether the observed findings also apply to employees in other work contexts and industries. To sum up, further dyadic studies on motive constellations within leader-follower relationships could have important practical implications. Firstly, in the short term they could help to investigate sources of stress in work relationships and help to make better use of human resources. In the medium term these findings could help to make organizations and managers more aware of the motivational conditions of high-quality LMX and prevent staff fluctuation. Finally, in the long term, existing coaching and training programs would profit from further research findings on that

topic. This could serve as a basis for implementing new dyadic training approaches in the future.

Conclusion

Overall, our research on dyadic motive constellations broadens the perspective of previous motive and leadership research from an individual to a dyadic analysis, in investigating motive similarity as an antecedent of LMX quality, as well extending it by integrating concepts from the couple approach. LMX research, in particular, benefits from an important individual predictor for the leader-member relationship quality.

2.

The Relationship between Leader-Follower Explicit and Implicit Motive Constellations, LMX Quality and Work-Related Outcome Variables

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Abstract

Research discusses couples with similar or complementary personality characteristics and values to show how they contribute to a high-quality relationship. We apply the concepts of similarity and complementarity in the work context and analyze leader-follower relationships. The present research is based on the theoretical concept of motives and its meaning with respect to social interactions. We assume (achievement, power and affiliation) motive constellations of a leader-follower dyad to be antecedent conditions for leader-member exchange quality and work-related outcomes in leader-follower relationships.

More specifically, we hypothesize that – for the achievement and affiliation motives – a similarly pronounced motive in a leader and a direct subordinate will be positively correlated with work-related outcomes. With respect to the power motive, we assume that pronounced opposite motives in leaders and followers will be positively correlated with work-related outcomes. In addition, we assume that these relationships are indirectly affected by a high relationship quality as judged by leaders and followers.

Our hypotheses were confirmed in a cross-sectional study with 46 dyads of leaders and direct subordinates. We demonstrated that the explicit achievement motive and implicit affiliation motive constellation of leaders and followers predicts LMX quality and work-related outcomes. As hypothesized, similar affiliation motives in leaders and followers predicted a high LMX quality in the followers, whether an unexpected finding was that opposite achievement motives predict LMX quality in leaders. The results are interpreted in terms of their implications for motivational and LMX research.

Introduction

As an increasingly important issue, the current leader-member exchange (LMX) approach calls for the consideration of both leader and follower personalities when describing the phenomenon of a dyadic relationship and its quality (e.g., Liden, Wayne & Stilwell, 1993; Murphy & Ensher, 1999; Schyns, Kroon, & Moors, 2008; van Breukelen, Schyns, & Le Blanc, 2006). In this article we focus on the dyadic antecedents as well as the consequences of LMX quality in leader-member relationships from a motivational point of view. More specifically, we assume that LMX quality can be predicted from specific motive constellations in leaders and followers, and moreover is linked to several work-related outcome variables.

McClelland (1985), the spearhead of research on motivation, posits that "… motives drive, direct and select behavior toward certain actions and goals" (p. 10). In his theory, McClelland (1985) focused on three kinds of basic motives with corresponding emotions: the achievement, the affiliation and the power motive. The achievement motive is related to performance in tasks involving standards of excellence, and its psychological kernel is "the capacity to derive satisfaction from the autonomous mastery of challenging tasks" (McClelland, Atkinson, Clark, & Lowell, 1953; Schultheiss & Brunstein, 2005; cf. Schultheiss, 2008). The affiliation motive is driven by feelings of warmth and relatedness when establishing, maintaining and restoring positive social relationships (Schultheiss, 2008); while the power motive describes "a capacity to derive pleasure from having physical, mental, or emotional impact on other individuals or groups of individuals and to experience the impact of others on themselves as aversive" (Winter, 1973; cf., Schultheiss, 2008). The satisfaction of the affiliation and power motive is based on social interactions, meaning that they are social, interpersonal motives. In a similar vein, the revised circumplex model of interpersonal behavior (Horowitz et al., 2006) postulates communion and agency as two basic

dimensions along which social behavior can be located and which map perfectly onto affiliation and power motives. Interpersonal motives were proposed "…as important determinants of interpersonal functioning and interpersonal problems" (Horowitz, 2004; Horowitz, Wilson, Turan, Zolotsev, Constantino, & Henderson, 2006; see also Elliot, Gable, & Mapes, 2006; Gable, 2006) (p. 1097). As we aim to predict the quality of interpersonal work relationships, our study focuses on the two social motives (power and affiliation motive). Furthermore, we assume that in addition to the two social motives, the achievement motive also plays an important role with regard to LMX, because hierarchical work relationships have to deal with performance and feelings of pleasure and pride about a task well done, success or a feeling of disappointment after failure. For example, leaders and subordinates jointly strive for the pride of accomplishment when they achieve the goals they agreed upon beforehand in their dyadic exchange process. As we aim to predict the quality of social work relationships, our study therefore focuses on all three motives.

Motivational researchers (McClelland, Koestner, & Weinberger, 1989) distinguish conceptually between implicit and explicit motives, which are anchored in two different motivational systems. Whereas implicit motives operate outside a person's conscious awareness and are derived from an affective experience, "self-attributed (explicit) motives are based on more cognitively elaborated constructs" (McClelland et al., 1989, p. 690). Plenty of studies have shown that measures of explicit and implicit motives are largely uncorrelated (e.g., McClelland et al., 1989; Schultheiss & Brunstein, 2001). Explicit and implicit motives have been found to predict different kinds of behavior. While implicit motives predict spontaneous behavior in open situations, explicit motives predict deliberate behavior in structured situations. We therefore investigate both. Firstly, we focus on leaders' and followers' implicit motives with respect to the long-term leader-follower relationships investigated here, because implicit motives predict long-term behavioral trends (Spangler, 1992). One situation in which implicit motives operate, for instance, might be a person who is

conscious of her high level of well-being but unable to exactly describe the reason for it. Implicit motives ask questions such as: In which situations do I feel good? In contrast to this, explicit motives ask questions like: What is expected of me by the other partner? The explicit motive system contains verbally represented concepts that individuals have about their needs, wishes and values (McClelland et al., 1989; Weinberger & McClelland, 1990). With regard to our work, we assume that explicit motives also play a role, because leaders and followers develop different expectations towards themselves and their partner, as well as their own role within their relationship.

Approximately since the 1950s, numerous interpersonal models (e.g., Leary, 1957) have emerged to explain interpersonal dyadic relationships through the study of personality. According to most interpersonal models, social behavior is organized on two basic dimensions: communion and agency. Communion and agency map perfectly to the affiliation and the power motive. Over the last two decades, researchers of social interactions have discussed the concept of behavioral complementarity (e.g., Carson, 1969). Interpersonal complementarity refers to the extent to which "the behavior of two individuals in a dyad fit with each other most typically on the dimensions of control and affiliation" (Tracey, Ryan, & Jaschik-Herman, 2001, p. 786). Tracey and his colleagues define an interaction to be complementary, "when the two individuals within the interaction are similar on the affiliation dimension and opposite on the control dimension", and hypothesize complementary interactions to promote relationship stability (Tracey et al., 2001, p. 788). Markey and Markey (2007) posit that complementarity can also be examined on the level of personality traits, because there is an established link between behavior and personality traits (e.g., Funder & Sneed, 1993; Markey, Markey, & Tinsley, 2004). There are plenty of empirical studies which support the concept of complementarity in interpersonal behavior to predict relationship quality and satisfaction (e.g., Markey & Markey, 2007; Tracey et al., 2001). Several studies confirm these assumptions, especially with respect to interpersonal traits. In particular, in

long-term romantic relationships trait complementarity was associated with relationship quality (Markey & Markey, 2007), and trait complementarity was higher among happily married couples than among divorced couples (Tracey et al., 2001). Trait complementarity has also been associated with relationship satisfaction (Dryer & Horowitz, 1997) and marital satisfaction (Campbell, 1991).

We transfer the principle of complementarity with regard to the two dimensions agency and communion to (explicit and implicit) power and affiliation motives. For implicit as well as explicit motives, we assume that leader-member dyads having opposite power motive scores will benefit from higher LMX quality than work partners with similar power motive scores. Leader-follower dyads that are similar in their power motives are hypothesized to be very threatening to relationship quality within a clearly defined hierarchical relationship. Moreover, we expect leader-member dyads consisting of a similar affiliation motive, i.e. both with a high or low respective affiliation motive, to report higher LMX quality than dyads in which one person scores low and the other scores high on the affiliation motive. We assume a similar affiliation motive to promote relationship quality, because if one person has the need to establish and maintain friendly work relationships and the other partner does not, the second will be perceived as unfriendly and consequently an emotional imbalance is likely to develop within their interaction. Regarding romantic partners, there is much empirical evidence that similar characteristics – such as behavioral patterns, personality factors, ideals and values – are predictive of relationship satisfaction and quality in marital partners (e.g., Acitelli, Kenny, & Weiner, 2001; Deal, Wampler, & Halverson, 1992; Kenny & Acitelli, 1994). With respect to achievement motives within leader-follower relationships, we hypothesize that leader-follower dyads with similarly low or high achievement motive scores will report higher LMX quality than dyadic partners where one person scores low and the other scores high on the achievement motive. It seems plausible to us that leader-follower dyads with similar achievement motive scores will have a similar achievement level for

ambition, which creates a balance in their work relationship.

Similarly to researchers of romantic relationships and couples, LMX researchers have a growing interest in acquiring a detailed understanding of the determinants of LMX quality (van Gils, van Quaquebeke, & van Knippenberg, 2010). Current LMX research posits: "…when individuals in a dyad are of one mind concerning key relationship variables, they tend to like one another and develop relationships that are of high quality" (cf. Kacmar, Harris, Carlson, & Zivnuska, 2009; p. 315). Although LMX researchers assume LMX relationship quality to be related to the fit between partners concerning key relationship variables, and therefore assume a dyadic influence, empirical support for this hypothesis from dyadic studies is lacking. Plenty of the studies investigated so far focus on only one dyadic partner, the follower. LMX research has frequently explored follower characteristics linked to LMX (Bauer, Erdogan, Liden, & Wayne, 2006; Graen & Scandura, 1987; Kinicki & Vecchio, 1994; Phillips & Bedeian, 1994; Schyns, Kroon, & Moors, 2008). Studies have, for instance, lighted upon followers' extraversion (Phillips & Badeian, 1994) or locus of control (Kinicki & Vecchio, 1994; Phillips & Bedeian, 1994) in relation to LMX. In another study, Schyns and her colleagues (2008) have found a follower's need for leadership and independence to be correlated with the follower's LMX quality. It is worth noting that already in the early 1970s, Argyle and Little (1972) included both partners' – leaders' and followers' – personalities and investigated whether their social interaction differs depending on their similarity or dissimilarity. Two longitudinal studies (Bauer & Green, 1996; Liden, Wayne, & Stillwell, 1993) suggest that the theory of similar personality characteristics is consistent with LMX theory (e.g., Engle & Lord, 1997). With respect to similar or opposite personality characteristics being related to LMX quality, researcher later compared deep-level characteristics and surface-level characteristics (e.g. Hiller & Day, 2003). Hiller and Day (2003) posited that similarities in terms of attitudes and values appear to be more important than demographic characteristics (age, gender, education), which were found to be only

weakly related to the quality of the exchange relationship (Green, Anderson, & Shivers, 1996; Tsui, Xin, & Egan, 1995). Our focus on leaders' and followers' motives, considered to be deep-level characteristics, is supported by the theoretical basis of LMX research.

LMX researchers are heavily committed to finding out the determinants of high quality LMX, because the beneficial effects of high-quality LMX on several work-related outcomes of subordinates have strong empirical support. Studies have found that subordinates report a higher relationship satisfaction with their leader (Duchon, Green, & Taber, 1986; Lagace, 1990), are more satisfied with their job (Gerstner & Day, 1997; Graen & Cashman, 1975; Graen et al., 1982; Scandura & Graen, 1984; van Breukelen et al., 2006), show better work performance (Graen et al., 1982; Mayfried & Mayfried, 1998; Vecchio & Norris, 1996) and are more committed and motivated not to leave the organization (Scandura & Graen, 1984; Vecchio & Norris, 1996). The LMX quality of the leader and its determinants have so far been neglected as a topic of research.

Taking all these aspects of motivational, couple and LMX research together, we transfer the idea of interacting couples' traits to motives and, more specifically, motive constellations in leader-member relationships. We therefore understand LMX to be motivated social interaction in which leaders and followers with different personalities, needs and ideas about what makes a good relationship, work together in a dyadic exchange process. Looking at the question of the LMX quality of a leader-follower dyad from a motivational point of view, this means that two individuals with different motives interact. It seems plausible to us that the constellation of motives of both the leader and the follower – the motivational fit or non-fit – plays an important role in how high or low both the partners assess their LMX quality as being. The motives of either may be satisfied or unsatisfied by the other party. Thus we address both the leader and the member assessment of LMX quality, its motivational antecedents and work-related outcomes. Summing up, in investigating whether the motives of

leaders and followers are related to LMX quality and job satisfaction, in-role behavior and commitment, the present research integrates the LMX, motive and dyadic couple approaches described above.

Method

Participants and Procedure

We matched dyads with a total of 46 leaders (17 female and 29 male, mean age ranging between 46 and 56 years, SD = 1.13) and followers (30 female and 16 male, mean age ranging between 26 and 35 years, SD = 1.26). Participants voluntarily filled out a series of psychological tests concerning their personality characteristics as well as work-related variables. In return for participating in our study, the leaders and followers received a results report and a book.

Our sample was recruited in various ways[8] and took part either in a paper-and-pencil or an online survey. Two different surveys were prepared, a leader and a subordinate version. First we sent a link to our study to human resources representatives at different Swiss and German companies working in different fields, which means that our sample was very heterogeneous. Use of German and the possibility of interacting regularly with participating subordinates were defined as inclusion criteria for the managers. Each manager was able to start immediately and fill in our online survey, which took about 45 minutes. Besides general instructions, the leader version included an explanation as to how to invite a direct subordinate to the study. The subordinate whose surname began with the letter closest to *M* was chosen, in order to guarantee that leaders randomly selected the subordinate they would be referring to in the questionnaire. Otherwise may they might have chosen the subordinate

[8] Recruitment channels: flyer, online job market for manager positions via www.alpha.ch, personal contact

they liked most or least. After the leaders had finished the survey, they invited their subordinates by email, including the link and a shared code for later matching.

Measures

Explicit Motives. To measure explicit motives, we used the Personality Research Form (PRF; Jackson, 1974; Stumpf, Angleitner, Wieck, Jackson, & Beloch-Till, 1985). The PRF inventory measures verbally represented motives that people have about their outlasting affective preferences, which can be assessed through self-report (McClelland et al., 1989). We used a short version with 18 of the original 48 items. The item choice was based on an exploratory factor analysis from another study with a sample of 225 students implemented at the University of Zurich. The short scales correlated well with the full PRF scale in this sample (for affiliation (San Aff) r = .83, for dominance (San Pow) r = .87 and for achievement (San Ach) r = .69).

The participants of our sample completed three subscales with 6 items each: the affiliation (PRF-AF) (e.g., “I try to be in the company of friends as much as possible.”), dominance (PRF-DO) (e.g., “I feel confident when directing the activities of others.”) and achievement scale (PRF-AC) (e.g., “In my work I seldom do more than is necessary (r).”). The items could either be accepted or rejected. After recoding the revised items, we computed an explicit motive score for all three motives, by summing the items of the subscales that respondents agreed with. The internal consistencies were: the for achievement scale .22[9] for leaders (M =5.76, SD = .48) and .65 for followers (M = 5.35, SD = 1.16), for the affiliation scale .72 for leaders (M = 3.96, SD = 1.74) and for followers .51 (M = 4.39, SD = 1.31). For the power scale we obtained a reliability (Cronbach’s alpha) of .50 for leaders (M = 4.48, SD

[9] The scale’s internal consistency did not satisfy the criterion, due to the fact that PRF items can be either accepted or rejected. Our data varied less because participants in our sample were highly achievement motivated (see leaders with M = 5.76 with a max = 6.00).

= 1.21) and .68 (*M* = 3.46, SD = 1.76) for followers. The scores were converted to z-scores for further analysis.

Implicit Motives. Implicit motives were assessed by us using the most commonly used method: the Picture Story Exercise (PSE; McClelland et al., 1989; Schultheiss, 2008; Schultheiss & Pang, 2007). Participants wrote imaginative stories about 5 pictures showing people in various social situations (e.g., two women working in a laboratory, a man and a woman sitting on a bench near a river). Standard instructions for computer administration were given to the participants following Schultheiss and Pang (2007). Each picture was shown for 10 seconds and afterwards replaced by a screen with written instructions. Participants had to type their stories directly into a window on the screen. After three minutes had elapsed, a text appeared on the top half of the screen instructing participants to finish the current story and move on to the next picture. Two independent coders scored each of all PSE stories using Winter's (1994) *Manual for Scoring Motive Imagery in Running Text*, which allows the scorer to code all three motives simultaneously. In the past, scorers have exceeded 85% in inter-scorer agreement on calibration material included in the manual, which had been pre-scored by an expert. According to the manual, achievement imagery is scored when a character is concerned with a standard of excellence, as expressed by positive feelings about goal success or winning, disappointment about failure or competing with others. Affiliation imagery is scored when the character shows a concern with establishing and maintaining friendly or close relationships, as indicated by positive feelings towards or sadness about separation from others. Power imagery is scored when a character shows a concern with influencing others through strong, forceful actions, controlling, helping or eliciting strong emotions in others.

The length of the PSE protocol for leaders (*M* = 319.00, *SD* = 118.97) was significantly correlated with the participants' overall motive scores for n Power (*M* = 0.41, *SD*

= .65), *r* = .45, n Achievement (*M* = 3.41, *SD* = 2.31), *r* = .55, and n Affiliation (*M* = 2.13, *SD* = 1.59), *r* = .63, all *p*s < .001. The length of the PSE protocol for followers (*M* = 330.11, *SD* = 157.14) also was significantly correlated with the participants' overall motive scores for n Power (*M* = 2.09, *SD* = 1.84), *r* = .43, n Achievement (*M* = 3.36, *SD* = 2.33), *r* = .73, and n Affiliation (*M* = 2.16, *SD* = 1.96), *r* = .68, all *p*s < .001. We corrected for the influence of protocol length by multiplying total motive raw scores by 1000 and dividing the product by the total word count, following Winter's (1994) recommendation.

LMX Quality. We assessed relationship quality (separately for leaders and members) using the 7-item adapted satisfaction in couple relationships scale (ZIP; Hassebrauck, 1991). Items (e.g., "How satisfied are you with your relationship to your leader/subordinate?") are rated on a 7-point Likert scale: "This statement applies to me: (1) very strongly, … (4) moderately, … (7) not at all." After recoding the revised items we computed a LMX quality index for leaders (LMX quality $_{L}$; *M* = 6.13, SD = .66) with an internal consistency of .80 as well as for followers (LMX quality $_{F}$; *M* = 5.82, SD = .86). For the subordinate scale we obtained a reliability of .85.

Job satisfaction. To measure job satisfaction we worked with a translated German version of the job satisfaction subscale by Hackman, and Oldham's Job Diagnostic Survey (1975) consisting of 5 items. Responses are given using a 7-point Likert scale: "This statement applies to me: (1) not at all, … (4) moderately, … (7) very strongly." A sample item from this scale is: "Generally speaking, I am very satisfied with this job." We computed the job satisfaction scores by subsuming the items and averaging them for the leaders and followers. In the present sample, the internal consistency was .63 (*M* = 5.73, SD = .67) for the leader job satisfaction scale and .73 (*M* = 5.34, SD = .94) for the follower job satisfaction scale.

In-role behavior (IRB). We assessed IRB using translated, positively worded items (e.g. "Meets formal performance requirements of the job."), from the 7-item in-role behavior scale

developed by Williams and Anderson (1991). In-role behavior is defined as "behavior which is required or expected as part of performing the duties and responsibilities of the assigned role" (Van Dyne, Cummings, & Parks, 1995, p. 222). The seven items are rated by the participants on a 7-point Likert scale: "This statement applies to me: (1) not at all, … (4) moderately, … (7) very strongly." We obtained a reliability (Cronbach's alpha) of .79 for the leader IRB scale (follower rating his leader; M = 6.04, SD = .82) and .74 for the follower IRB scale (leader rating his follower; M = 6.30; SD = .59).

Organizational Commitment. We measured organizational commitment using the 8-item affective commitment subscale (e.g., "I feel emotionally attached to this organization." and "I think that I could easily become as attached to another organization as I am to this one (r).") of Meyer and Allen (1991). After recoding all reverse items, we subsumed the scores and averaged for leader (M = 5.58; SD = .87; Cronbach's alpha = .80) and follower commitment (M = 4.84; SD = .92; Cronbach's alpha = .73).

Results

A theoretical perspective involving dyadic hypotheses requires a special statistical technique in order to analyze these dyadic data. In this regard we adopted the Actor-Partner Interdependence Model (APIM; Kashy & Kenny, 1999; Kenny, 1996). We use the principles of the APIM framework in our investigation of whether motives predicts individuals' LMX quality with their partners and study motives (San Pow, San Ach, San Aff, $_{n}$Pow, $_{n}$Ach, $_{n}$Aff) in terms of (a) the effect of the respondent's own motive on his or her LMX quality (the *actor effect*), and (b) the effect of the partner's motive on the respondent's ratings of LMX quality (the *partner effect*). In addition to *actor* and *partner* effects, we are particularly interested in (c) the *interaction* effect, namely the effect of the motive constellation of the leaders and members on LMX quality.

Preliminary Analyses and Correlations

The descriptive statistics and zero-order correlations of all variables are presented in Table 1.

Strategy for Analysis and the Measurement Model

The primary focus of the study was to investigate the models we had theoretically postulated in advance for the relationship between leaders' and followers' motives and motive constellation respectively (power, achievement, affiliation), and LMX quality and work-related outcome variables (job satisfaction, IRB and commitment) (see Figure 1).

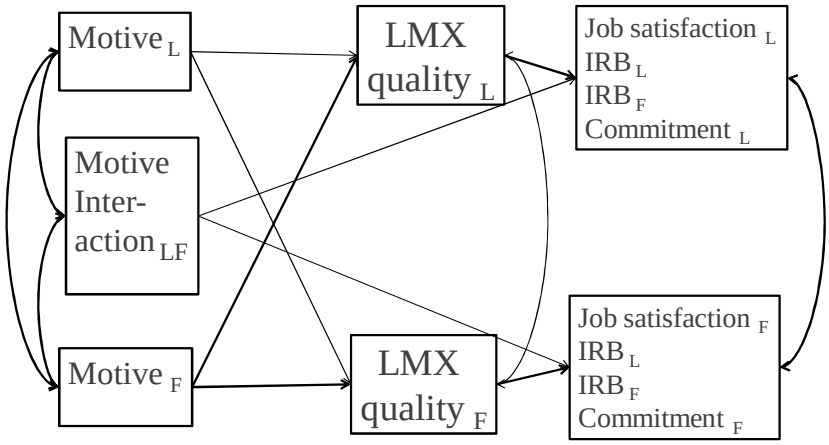

Figure 1 Our model. Motive constellation, the motives of leaders and followers predict LMX quality and work-related outcomes of leaders and followers. Single-headed arrows indicate causal or predictive paths. Double-headed arrows indicate correlated variables.
Note: This figure summarizes a total of 18 (6x3) separate models for San Pow, San Ach, San Aff, $_{n}$Pow, $_{n}$Ach, $_{n}$Aff (6) and job satisfaction, in-role behavior (self and other) and commitment (3). This figure reflects a summary of all possible relationships of all models. Because of different theoretical assumptions, by us, not every path was tested with regard to every single predicted outcome variable. Therefore, regarding the model testing, different degrees of freedom result with regard to different models. For detailed information please contact us.

We therefore translated our theory into structural equation models (SEM), which describe a set of linear regression equations that are simply represented by arrows connecting the variables (Nachtigall, Kroechne, Funke, & Steyer, 2003). Multiple regression analyses aim to predict scores of a dependent or criterion variable (job satisfaction, IRB, commitment) based on scores on multiple independent or predictor variables (San Pow, San Ach, San Aff, $_{n}$Pow, $_{n}$Ach, $_{n}$Aff). We specified our hypothesized models by including LMX quality$_{L}$ and LMX quality$_{F}$ in the path diagram as potential indirect effects.

To summarize, our regression model predicts work-related outcomes depending on leaders' and followers' motive constellations. Moreover, this model postulates that this relationship is indirectly affected by the LMX quality of leaders and followers.

Relationship between Leaders' and Followers' Motives, Their Motive Constellation, LMX Quality and Work-Related Outcomes

We analyzed the fit of a total of 18 models, one for each motive, meaning that we did separate analyses for the following motive contents: power, affiliation and achievement; as well as separate ones for the following motive systems: explicit and implicit; and separate ones for each work-related outcome: job satisfaction, in-role behavior self/other and affective commitment. Table 2 presents the estimated parameters for the 18 models tested. The structural equation models were evaluated using the software package AMOS 17.0 (Arbuckle, 2009). The fit coefficients are presented in Table 2. All models fit the data.

Predicting LMX Quality in Leaders and Followers from Explicit and Implicit Power, Achievement and Affiliation Motive Constellations

In order to predict leaders' and subordinates' LMX quality from (leader-follower) motive constellations, we analyzed how leaders' and followers' motives interact. We therefore employed separate regression approaches for each of the motives (power,

achievement, affiliation; as well as separately for explicit and implicit motives). The motives of leaders and subordinates were entered in the first step of a hierarchical regression analysis, followed by their multiplicative two-way interaction term, entered in the second block (Aiken & West, 1991). Our data revealed a significant prediction of relationship quality of leaders from the explicit achievement motive constellation of leaders and followers (b = -6.89, se_b = .64, ΔR^2 = .15, CI [-8.11, -1.00], $t(44)$ = -2.59, $p < .05$). Moreover we found implicit affiliation motive constellations to be marginally significant in predicting the relationship quality of followers (b = .65, se_b = .85, ΔR^2 = .10, CI [-.09, 1.21], $t(43)$ = -1.74, p = .09). This finding supports our assumption – with regard to the achievement and affiliation motives, but not the power motive – by demonstrating that leaders' and followers' (explicit achievement and implicit affiliation) motives interact and have an influence on their LMX quality. The data did not reveal any significant effects with regard to other explicit or implicit motives.

In the next step, in order to graph the significant interaction effect with regard to explicit achievement motives, we computed scores of *LMX quality*$_L$ for predictor values of one standard deviation above and below the mean of each predictor. Figure 2 illustrates that different achievement motives in leaders and followers (one high and the other low) predict higher LMX quality scores in leaders. Correspondingly, simple slope analyses (O'Connor, 1998) confirmed that the achievement motive of leaders was negatively related to leaders' LMX quality when the followers' explicit achievement motive was high (one standard deviation above the mean), β = -2.93, $t(44)$ = -2.58, $p < .05$). When the achievement motive of the follower was low (one standard deviation below the mean) the achievement motive of the leader was significantly positive related to LMX quality $_L$, β = 1.62, $t(44)$ = 2.54, $p < .05$).

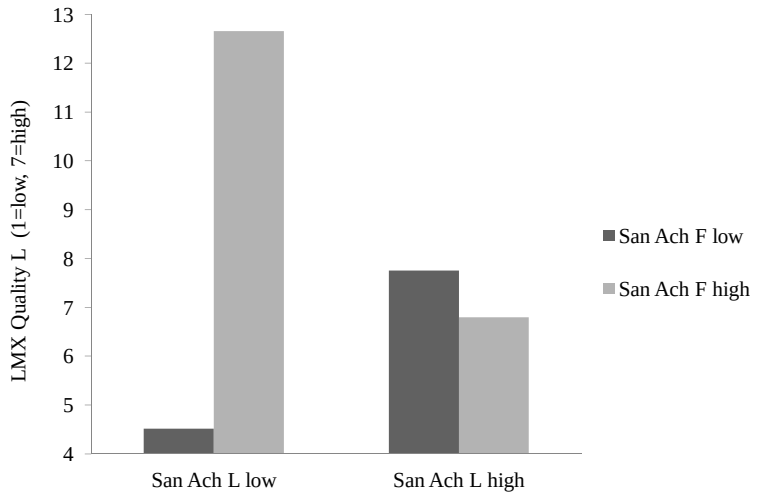

Figure 2 LMX quality of leaders as a function of the explicit achievement motive constellation of leaders (San Ach $_{L}$) and followers (San Ach $_{F}$).
Note: Low and high values correspond to one standard deviation below and above the mean.

Following the same procedure, to graph the marginal interaction of affiliation with regard to implicit affiliation motive we computed scores of *LMX quality*$_F$ for predictor values of one standard deviation above and below the mean of each predictor. Figure 3 illustrates, that, as hypothesized, similar implicit affiliation motives in leaders and followers (both high/both low) predict higher follower LMX quality scores. Correspondingly, simple slope analyses (O'Connor, 1998) confirmed that the affiliation motive of leaders was positively related to followers' LMX quality when the followers' implicit affiliation motive was high (one standard deviation above the mean), $\beta = .16$, $t(42) = 2.31$, $p < .05$). When the affiliation motive of followers was low (one standard deviation below the mean), the affiliation motive of leaders was significantly negatively related to LMX quality $_{F}$, $\beta = -0.96$, $t(42) = -11.15$, $p < .001$).

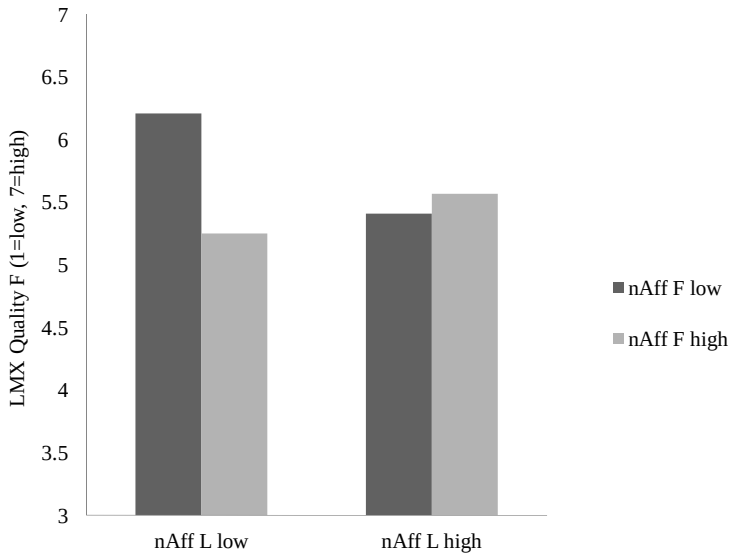

Figure 3 LMX quality of followers as a function of the implicit achievement motive constellation of leaders ($_{n}$Aff $_{L}$) and members ($_{n}$Aff $_{F}$).
Note: Low and high values correspond to 1 standard deviation below and above the mean.

Table 1 Descriptive statistics and associations (Pearson correlation) between all variables

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 San Pow $_{L}$	4.48	1.21	1																			
2 San Ach $_{L}$	5.76	0.48	.36*	1																		
3 San Aff $_{L}$	3.96	1.74	.20	.25†	1																	
4 San Pow $_{F}$	3.46	1.76	.15	.13	.12	1																
5 San Ach $_{F}$	5.35	1.16	.24	.39**	.26†	.20	1															
6 San Aff $_{F}$	4.39	1.31	.13	.08	.32*	.21	.39**	1														
7 $_{n}$Pow $_{L}$	6.08	4.88	.09	-.21	-.14	.02	-.01	-.02	1													
8 $_{n}$Ach $_{L}$	10.30	6.33	-.27†	-.08	.22	-.01	.05	-.05	.08	1												
9 $_{n}$Aff $_{L}$	6.34	3.88	.11	.10	.16	.22	.11	.16	-.04	.23	1											
10 $_{n}$Pow $_{F}$	6.00	5.46	-.18	-.05	-.23	-.11	.04	-.07	.21	.40**	.14	1										
11 $_{n}$Ach $_{F}$	10.06	6.25	.13	.09	-.03	.20	.19	-.02	.12	.07	-.19	.14	1									
12 $_{n}$Aff $_{F}$	6.14	4.82	.16	.14	.26†	.23	-.07	-.03	-.14	.06	.14	-.04	-.08	1								
13 LMX quality $_{L}$	6.13	0.66	.05	.04	.10	-.11	.06	.14	.17	.02	.10	.10	.02	.01	1							
14 LMX quality $_{F}$	5.82	0.86	.08	.09	.23	.05	.20	-.09	-.07	-.06	-.20	-.25	-.09	.02	.31*	1						
15 Job satisfaction $_{L}$	5.73	0.69	.27†	.36*	.26†	.12	.28†	.09	.11	.10	.21	-.11	-.08	.13	.22	.11	1					
16 Job satisfaction $_{F}$	5.34	0.94	.23	.40**	.22	-.03	.33*	.15	-.10	-.11	-.04	-.24	.06	-.01	.33*	.62**	.12	1				
17 IRB $_{L}$	6.04	0.82	.15	.15	.13	-.04	.39**	.14	-.18	-.19	-.18	-.21	-.17	-.06	.27	.73**	.05	.60**	1			
18 IRB $_{F}$	6.30	0.59	-.04	.24	.10	.09	.23	.20	.09	-.13	.02	.16	-.04	.07	.51**	.25	.30*	.33*	.14	1		
19 Commitment $_{L}$	5.58	0.87	-.01	-.01	.03	-.23	.04	.14	.12	-.15	-.02	-.03	.19	-.19	.15	.10	.29†	.21	.06	.14	1	
20 Commitment $_{F}$	4.84	0.92	-.09	-.01	-.02	-.03	.09	.31*	-.01	-.17	-.19	-.18	.07	-.33*	.05	.42**	-.26†	.46**	.42**	.03	.33*	1

Note: † p < .10. * p < .05. ** p < .001.

Table 2 Goodness-of-fit statistics for the tested models

Model ID	$\chi 2$	*df*	p	CFI	RMSEA
M1: San Pow/Job satisfaction	10.06	6	.12	.98	.12
M2: San Ach/Job satisfaction	2.40	4	.66	1.00	.00
M3: San Aff/Job satisfaction	2.76	4	.60	1.00	.00
M4: San Pow/ IRB	6.91	4	.14	.99	.13
M5: San Ach/ IRB	1.65	4	.80	1.00	.00
M6: San Aff/ IRB	8.68	5	.12	.99	.13
M7: San Pow/ Commitment	2.47	6	.87	1.00	.00
M8: San Ach/ Commitment	.57	6	.98	1.00	.00
M9: San Aff/Commitment	9.48	6	.15	.99	.11
M10: $_{n}$Pow /Job satisfaction	3.00	4	.56	1.00	.00
M11: $_{n}$Ach /Job satisfaction	2.40	4	.66	1.00	.00
M12: $_{n}$Aff /Job satisfaction	1.82	6	.94	1.00	.00
M13: $_{n}$Pow / IRB	3.20	4	.53	1.00	.00
M14: $_{n}$Ach / IRB	3.62	4	.46	1.00	.00
M15: $_{n}$Aff / IRB	.48	4	.98	1.00	.00
M16: $_{n}$Pow / Commitment	2.62	6	.86	1.00	.00
M17: $_{n}$Ach / Commitment	5.36	6	.50	1.00	.00
M18: $_{n}$Aff /Commitment	8.84	4	.07	.95	.17

*Note***:** CFI = comparative fit index; RMSEA = root-mean-square error of approximation.
Each of the 18 models tested contains leaders' and followers' motives as well as their interaction. The model ID shows which motive (Pow, Ach or Aff/ explicit or implicit motive system) and work-related outcome (job satisfaction, IRB, commitment) were tested, because they were tested separately.
Because of different theoretical assumptions, by us, not every path was tested with regard to every single predicted outcome variable. Therefore, different degrees of freedom result with regard to different models.

Predicting Work-related Outcomes from Dyadic Interaction of (1) Explicit Achievement and (2) Implicit Affiliation Motives, Indirectly Affected by LMX Quality of Leaders and Followers

Regarding the previously reported interaction effects of (1) leaders' and followers' explicit achievement, as well as (2) their implicit affiliation motives, we tested mediation models which predict work-related outcomes based on leaders' and followers' motive interaction, and assumed this relationship to be indirectly affected by LMX quality. This means that we tested 8 models in total: (1) Models 1-4: explicit achievement motives and leaders' LMX quality for job satisfaction, IRB (self and other), commitment, (2) Models 5-8: implicit affiliation motives and followers' LMX quality for each work-related outcome. We used a highly valid and powerful method - bootstrapping (e.g., Shrout & Bolger, 2002;

Williams & MacKinnon, 2008). Bootstrapping (Efron, 1982) is a versatile method for estimating the sampling distribution of parameter estimates and is one way of dealing with small sample sizes, as in our case. Table 3 presents the following results for all tested models: standardized regression weights for all work-related outcomes predicted by the respective LMX quality, two-tailed significance levels for all indirect effects and confidence intervals for the bootstrap.

Table 3 Coefficients for the analysis of the relationship between (**1**) interaction of explicit achievement motives of leaders and followers and all work-related outcome variables and the indirect effect of leaders' LMX quality (Model 1-4) and (**2**) interaction of implicit affiliation motives of leaders and followers and all work-related outcome variables and the indirect effect of followers' LMX quality (Model 5-6)

	Model	Work Outcome	ß	*S.E.*	*C.R.*	*p*	Lower Bounds	Upper Bounds	Standardized Indirect Effects/two-tailed significance
1	1	Job satisfaction $_{L}$	.22	.14	1.68	.09	-3.85	-.08	.08
	2	IRB $_{L}$	.05	.13	.48	.63	-6.01	.56	.20
	3	IRB $_{F}$	.42	.12	3.65	<.001	-6.27	-1.26	.01
	4	Commitment $_{L}$	.19	.17	1.15	.25	-3.11	.28	.20
2	5	Job satisfaction $_{F}$	.67	.13	5.15	<.001	.03	.81	.07
	6	IRB $_{L}$	.71	.10	6.79	<.001	.02	.93	.09
	7	IRB $_{F}$	.07	.10	.76	.45	-.51	.20	.50
	8	Commitment $_{F}$	.43	.14	3.10	.01	.03	.62	.06

With regard to the four models tested (Model 1 to 4) for the interaction of leaders' and followers' *explicit achievement motives* (1), our empirical findings from the bootstrap analyses show that leaders' LMX quality indirectly significantly affects the relationship between the interacting motives and the followers' in-role behavior (leader rates followers' IRB; Model 3). Moreover, there is a marginal indirect effect of leaders' LMX quality when predicting leaders' job satisfaction based on the explicit achievement motive interaction of leaders and followers (Model 1). Regarding the models tested (see Model 5 to 8) for the investigated interaction of *implicit affiliation motives* (2), bootstrap analyses revealed that the

followers' LMX quality has marginal indirect effects on the prediction of the followers' job satisfaction (Model 5), in-role behavior (follower estimates leaders' IRB; Model 6) and commitment (Model 8) based on leaders' and followers' interacting affiliation motives.

Discussion

In the present field study, we investigated the relationship between the dyadic motive constellations of leaders and followers and various work-related outcomes (job satisfaction, in-role behavior and affective commitment). Furthermore, we assumed this relationship to be indirectly affected by the LMX quality estimated by leaders and followers. One the one hand, our assumptions were primarily based on past LMX research, whereby the positive relationship between LMX quality and different work-related outcomes has been established in numerous studies (e.g., Gerstner & Day, 1997). One the other hand, we built on the concept of complementarity in interpersonal behavior (Carson, 1969). An interaction is defined as complementary "when the two individuals within the interaction are similar on the affiliation dimension and are opposite on the control dimension" (Tracey et al., 2001, p. 788). With respect to romantic relationships, Markey and Markey (2007) have shown that trait complementarity is associated with relationship quality. Following this conception, we hypothesized that LMX quality will be estimated as being higher by leaders and followers when the affiliation motive scores of the leaders and followers are similar (both scoring high or both low) and the power motives of the dyadic partners score oppositely (one partner scores low and the other high). Furthermore, we assumed that a similarity between leaders' and followers' achievement motives (both scoring high or low) would predict high LMX quality.

As hypothesized, our analyses revealed a marginal prediction of followers' LMX quality based on the implicit affiliation motive similarity between leaders and followers. Simple slope analyses confirmed the result that the follower estimates a higher LMX quality

when the leader and the follower both score high or both score low, than when both score in opposite senses. As hypothesized, data revealed indirect effects of followers' LMX quality follower on the relationship between the dyadic implicit affiliation motive constellation and followers' job satisfaction, followers' estimation of leaders' in-role behavior as well as followers' commitment.

"Dyads that are complements as defined by Carson's model report liking each other more and work better together on various tasks than do other dyads" (Dryer & Horowitz, 1997; Estroff & Nowicki, 1992; Nowicki & Manheim, 1991; cf. Markey & Markey, 2007, p. 521). The concept of complementarity and several studies which confirm this concept support our result that similar interpersonal traits with regard to the affiliation dimension are associated with high relationship quality.

With regard to the control dimension, opposite traits are associated with high relationship quality and, conversely, interactions that are similar on the control dimension were hypothesized to be very threatening to the relationship (Tracey et al., 2001, p. 788). With regard to the power motive, which maps to the control dimension, our data did not show any effect. However, we still maintain the validity of the principle of complementarity with respect to power motivation. One the one hand, it seems plausible to us that a leader-follower dyad composed of two dominant individuals will experience high levels of conflict when both members attempt to exhibit control over each other, and leader-follower dyads composed of two submissive individuals can be assumed to experience high levels of frustration because neither member of the dyad will tend to take the initiative. One the other hand, the effects of opposite power motives on LMX quality may not come to fruition in our study because leader-subordinate dyads have not been involved in a long-term work relationship for long enough to show these effects (69% of dyads had been working together for between one and five years). Research on romantic relationships supports our assumption in showing that in

long-term romantic relationships trait complementarity is associated with relationship quality (Markey & Markey, 2007), and trait complementarity was higher among happily married couples than among divorced couples (Tracey et al., 2001).

Regarding achievement motives, we found the constellation of leaders' and followers' explicit achievement motives to significantly predict leaders' LMX quality. Surprisingly, not similar but opposite explicit achievement motives in leaders and subordinates predicted leader's LMX quality in our sample. Simple slope analyses confirmed the result that LMX quality is rated higher by the leader when one scores high and the other one low in achievement motive. Following our assumption, data revealed significant indirect effects of leaders' LMX quality on the relationship between the dyadic explicit achievement motive constellation and leaders' job satisfaction and leaders' ratings of followers' in-role behavior.

There may be various explanations why leaders display an achievement motive pattern opposite to that hypothesized by us. Most interpersonal models postulate social behavior to be organized along two basic dimensions: communion and agency (e.g. Carson, 1969). Following this concept, communion and agency map perfectly to the social motives, the affiliation and power motive. Bakan (1966) also distinguishes between agency and communion, however, he relates agency to the striving for self-assertion, competence and learning experience. Similarly, Sheldon and Cooper (2008) consider achievement motivation to be prototypical for agency, and, according to them, power motivation can be identified instead in agency. Thus one explanation may be that achievement and power motives act similarly in the way that they follow the same "complementarity principle", i.e. opposite traits are associated with high relationship quality. Another possible explanation could be that a leader with a high achievement motive may prefer to participate in operational tasks rather than to delegate them, as compared with a leader scoring low on the achievement motive. It seems plausible to us that it is not important for this kind of leader with a high achievement

motive and for his estimation of LMX quality to have a subordinate with a similarly high achievement motive, because the leader himself ensures the high performance and success of his tasks. A leader whose achievement motive is low may favorably view the follower whose high achievement motive compensates for his own low achievement motive, because this ensures that work tasks are done well. With regard to followers' LMX quality, our analyses show the same pattern as for leaders' LMX quality. This means, opposite achievement motives tend to predict a higher LMX quality as rated by followers, but did not show a significant effect here.

The inclusion of explicit as well as implicit motive measures is a strength of our present work. Explicit and implicit motives were found to predict different kinds of behavior (Brunstein & Maier, 2005; McClelland et al., 1989; Spangler, 1992) and therefore both are assumed by us to be meaningful with regard to leader-follower relationships. In our data, significant effects were only seen with regard to explicit achievement and implicit affiliation motives. Studies with bigger sample sizes are needed to continue this work.

To the best of our knowledge, the present study is the first to examine the role of dyadic motive constellations as possible antecedents of LMX quality and work-related outcomes. Although it requires replication, the results indicate that, as with the relationship quality between intimate relationship partners, which depends on their dyadic trait constellation, the relationship quality of work relationships depends on the dyadic constellation of leaders' and followers' motives. Our study broadens the perspective of previous leadership approaches in various ways. Firstly, our research examines a new dyadic aspect of LMX, the motives of leaders and followers, which have not been taken into account until now. Secondly, we investigated not only followers' but also leaders' LMX quality and its effects on work-related outcomes. So far, less is known about the effects of high LMX

quality on leaders. Deluga and Perry (1994) speculate that a high LMX will make leaders exude lower stress and a higher level of well-being.

Two significant implications arise from the present study: (1) the results broaden our understanding of the antecedents of LMX by investigating LMX quality dyadically, as well as (2) contributing to the comprehension of the determinants of high LMX quality and work-related outcomes. With regard to the first aspect, Schriesheim and his colleagues (Schriesheim, Castro, & Cogliser, 1999) reported that only few studies in LMX research had analyzed dyadic data, whereas over 90% had employed either leader or subordinate scores (cf., Kacmar et al., 2009). Obviously there seems to be a consensus that the dyadic analysis is the appropriate unit for LMX relationships (cf., Van Breukelen et al., 2006). With regard to the aspect of dyadic analysis, Schriesheim et al. (1999) recommended that, in addition to specifying the level of analysis, suitable analytical methods should be used when analyzing on a dyadic level. We conceive of LMX as being an inherently interpersonal dyadic phenomenon in which the thoughts, feelings, and behaviors of one partner in the relationship are interdependent on those of the other partner. Consequently, we took into account the framework of Actor-Partner Interdependence Model (APIM; Kashy & Kenny, 1999; Kenny, 1996). This kind of structural equation model makes it possible to look at each leader-follower dyad as an “entity”.

Our work contributes to the understanding of the determinants of LMX quality. To summarize, our study assessed data on all three basic motives (power, achievement and affiliation; McClelland, 1985), including explicit and implicit motive measures (McClelland, Koestner, & Weinberger, 1989) for leaders and subordinates. This means gathering comprehensive insights and an empirically based, scientific foundation of all three basic human motives in the context of LMX, but it also limits the possibility of obtaining a deeper understanding by investigating just one motive with its various determinants. Consequently,

future studies should confirm the present results and moreover focus on different aspects of a single motive under specific conditions. Apart from this, the present study is limited in a number of ways:

One aspect our study which may be criticized a lot, just as LMX research has been, is its reliance on small and narrow samples (Dienesch & Liden, 1986; cf. Greguras & Ford, 2006). Nevertheless, the fact that significant results are achieved regarding several investigated motives and work-related outcomes using our small sample of 46 dyads provides even stronger support for their significance. A further methodological limitation lies in the measurement of LMX quality. Gregarus & Ford (2006) mention that there are only few studies that measure leaders' LMX, and there is no published multidimensional scale that measures leaders' perception of LMX. The scale we used to measure both followers' and leaders' LMX quality is an adapted version of the satisfaction in couple relationships scale (ZIP; Hassebrauck, 1991) and has not been validated for the context of leader-member relationships. Despite this fact, though, and highlighting it positively, this scale centers on the three different aspects that lead to different LMX qualities as defined by Dienesch and Liden (1986): perceived contribution (to the exchange), loyalty and mutual affect. The cross-sectional design of the current study may also be considered a limitation, because it prevents the inference of causation. As such, we did not focus on assessing reverse or reciprocal relationships in our current research, for instance determining whether LMQ quality leads to job satisfaction or vice versa, which could also be a theoretically plausible substantiation. Although we did not consider conditions within the business environment of our study sample or measure a special branch to control for these variables, our results are based on direct leader-member couples and therefore seem to be relevant for various companies.

To sum up, we first considered LMX quality from a motivational point of view, assessing motives as possible antecedent of LMX quality and work-related outcomes. We

believe a fundamentally challenge facing the LMX approach is to increasingly clarify the personal as well as the situational antecedents of high LMX quality relationships by assessing it under in terms of the interdependence of leaders and followers. Finally, we remain convinced that a social relationship between leaders and followers can lead to positive or negative outcomes in every party to the relationship, and affect success or failure for the whole company in a wider perspective. Year after year, a lot of money is invested by companies into vocational training programs intended to motivate leaders and subordinates, and to make both parties become outperformers. A practical implication of the new insights from this study into LMX quality and its antecedents means gaining a deeper understanding and identifying new aspects for developing innovative leader-subordinate coaching and training methods, and ultimately sensitizing leaders as well as followers to this issue. Firstly, coaching and training programs are possible that include both partners. This opens the horizon for working on special situations or conflicts with a coach in a dyadic rather than an individual way. Secondly, leaders as well as followers may receive feedback about their motives, information about the meaning of motives in general and LMX relationships, which may help them to understand each other better.

General Discussion

The present thesis with its five studies is a first step in LMX research to investigate direct relationships between McClelland's motives and, firstly, the phenomenon of leadership prototypes as well as, secondly, the quality of leader member exchange relationships. The pilot study and the two studies in Part I reveal that, from an intra-individual motive perspective, achievement, power and affiliation motive themes are anchored within leadership prototypes, a phenomenon based on implicit leadership theories. Recapitulating, the two studies of Part II complement the present work and make an important contribution to dyadic research in linking the inter-individual motive constellations of leaders and followers to leader member exchange quality, a further leadership phenomenon that has been frequently investigated in the last decade. In addition to the new understanding from a motivational perspective about the antecedents of leader prototypes and LMX that emerges from the present work, our findings open a wide avenue to future motive and leadership research, including many aspects that we were not able to take into account. We will summarize these aspects in the following.

The aim of the present thesis was to take a motive-theoretical perspective to explain leadership prototypes and leader-member exchange relationships, and their work-related outcomes. From this perspective, the outcome variables we investigated were not explained by external factors, such as situational or contextual work conditions, but by motivational variables within the person. More specifically, individual needs (motives) as well as the interaction between the individual needs of leaders and followers within a dyadic relationship were investigated here. Nevertheless, aside from the importance of leader and follower characteristics, a number of interactional variables, such as communication frequency/patterns and feedback seeking/receiving, have turned out to play a role with regard to LMX relationships (e.g., Liden, Sparrowe & Wayne, 1997; van Breukelen et al., 2006). For instance

the societal membership and the type of industry were found to be related to leadership prototypes (Paris et al., 2009). Thus, the aim of future research could be to investigate the leadership issues we have focused on here in a more integrating way, by looking at both individual and situational determinants.

Regarding dyadic motive constellations and LMX quality, we analyzed leader-follower dyads with respect to the issue of diversity. We therefore studied the similarity-attraction hypothesis (Byrne, 1971) of deep-level traits, motives. Future studies are needed, because our findings are inconsistent, as are other empirical findings with regard to similarity-attraction hypothesis and LMX (see Huang & Iun, 2006; p. 1122). Whereas the first study in Part I reports a positive effect of a similarity in dyadic achievement motives on LMX quality, the second study shows that opposite achievement motives predict higher LMX quality. Various sources of inconsistency are possible and will be discussed here. One possible explanation could be that we did not control for the industry type in our samples. In the first study we recruited employees from insurance companies, whereas the participants of our second study are employed in different types of industry.

A further important aspect that is discussed with respect to similarity in LMX, besides examining the actual motive similarity we concentrated on, is the perceived motive similarity. This is the extent to which dyad members perceive themselves as being similar to others (Turban & Jones, 1988; cf. Huang & Iun, 2006). Although both types of similarity have been identified in the literature to play an important role regarding high-quality LMX relationships, researchers disagree whether actual similarity or perceived similarity plays a more important role. Moreover, very few studies have found a strong link between actual and perceived similarity (e.g., Dose, 1999). We can learn much more about leadership phenomena, such as LMX quality and leadership prototypes, if we examine the actual as well as the perceived motives and motive constellations of both leaders and followers.

The fact that data were collected only from respondents in Germany and Switzerland may limit the generalizability of the results. Future research could attempt to replicate our theory using samples from other nations. An empirical comparison of motives and motive constellations in different national cultures and their influence on leadership phenomena, prototypes and LMX, may be fruitful to extend previous results. One point is that it might be interesting to analyze motive differences between cultures. If these exist, this may be an explanation why different leadership prototypes occur in different societies.

Practical Implications

Relationship quality is directly associated with health and well-being (Diener & Seligman, 2002). With regard to organizations, the main aim of theoretical and empirical research on work outcomes, such as well-being, job satisfaction and the relationship quality of leaders and followers, as well as their antecedents, is an application-related issue. For a company it is crucial to have employees – supervisors as well as subordinates – who are satisfied with their work issues as well as with the social climate in their work environment. Regarding the social work climate, direct leader-follower relationships, LMX relationships, play a key role. If the relationship between the leader and the follower is not a respectful, loyal and trustful one, contextual conditions at work and work issues can be ideal and yet the individual will not work efficiently in the long term or become an outperformer. Our work shows, and we are convinced, that social work relationships do determine work outcomes. Dyadic relationships between leaders and followers, two individuals and their personality characteristics, may either fit or not fit. A practical implication is that organizations could pair work partners in a targeted way, similarly to job candidates who are paired with personal job specifications. Therefore, dyads have to be paired which are not necessarily similar but which fit together. In doing so, more high-quality exchanges can be established which lead to an improved individual and group performance.

A second field of practical implications is that coaching could be developed from an individual to a dyadic perspective. Coaching for leaders or followers is used to find answers about work situations, roles and how to handle present or future challenges in work life. Coaches often focus on all the process variables that are connected with an individual and his job and life situation by analyzing a person individually. Coaching contracts between a coach and a leader-follower dyad could be envisaged. Including a dyadic leader-follower motive fit perspective as well as the perception of the leader by the follower (leader prototypes) may help to uncover potentially unfulfilled expectations and needs which affect work outcomes.

In Conclusion

To summarize, our work illustrates the motivational complexity of LMX relationships as well as the complexity of leaders' and followers' assessment of LMX, and invites a fuller integration of research on motives and LMX as well as the extension of this research with concepts of perceived motives of both partners. By thus integrating the motive approach into the approaches of leadership prototypes and LMX we hope to have opened the door towards more discussions and empirical work across all lines of research. More work on these issues means being able to explain and overcome divergent findings. Not only should researchers improve their understanding about these dyadic leader-follower phenomena, but leaders and followers should also engage in a dialogue to understand each other's perspective better.

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